# INDEX OF VOLUME 24 (1940)

Abstracts, Pacific Section Seventeenth Annual Meeting, November 7-8, 1940.	
The Association Round Table	2192
, West Texas Geological Society Fall Meeting, August 17, 1940. The	1608
Accumulation of Marine Diatomaceous Sediments. By Richard H. Fleming	
and M. C. Sargent. Abstract	2194
Accumulations, Oil and Gas, Relationship of Unconformities to. By Frank J. Gardner. Student Awards	2022
Adair County, Oklahoma, Morrow Group of. By Carl A. Moore	400
Adams, Bradford C. Foraminifera in Zonal Paleontology. Review by Hubert G.	409
Schenck	2049
Adams, John Emery. Structural Development, Yates Area, Texas	134
Adams, John Emery, and Page, Lincoln R. Stratigraphy, Eastern Midland	
Basin, Texas Adams, John Emery, et al. Classification of Permian Rocks	52 337
Addison, Carl C. Buckeye Oil Field, Gladwin County, Michigan	1950
Additional Membership Applications Approved for Publication. The Association	,,,
Round Table	,2199
By M. M. Leighton	1157
Alberta, Canada, Paleozoic Limestone of Turner Valley. By W. D. C. Mackenzie	1620
American Association of Petroleum Geologists, Address of Welcome at Twenty-	
Fifth Annual Meeting of. By M. M. Leighton	1157
, Code of Ethics. The Association Round Table	1519
, Committee Appointments. By L. C. Snider. The Association Round	
Table	1145
——, Constitution and By-Laws. The Association Round Table	1510
, Division of Paleontology and Mineralogy, Financial Statement, 1939.	
The Association Round Table	519
——, Executive Committee. The Association Round Table	894
——, Executive Committee Meetings	913
Financial Statement, 1939. The Association Round Table	514
, Membership List, March 6, 1940. The Association Round Table	523
, Membership List, Supplementary, September 1, 1940. The Association	
Round Table	1694
, Minutes, Twenty-Fifth Annual Meeting, Stevens Hotel, Chicago,	906
Illinois, April 10–12, 1040. By Ed. W. Owen. The Association Round Table ————————————————————————————————————	603
	003
National Research Council. By Frederic H. Lahee. The Association Round	
Table	1148
, Special Committees. The Association Round Table	1147
———, Statistics	914
tion Round Table	882
, Twenty-Sixth Annual Meeting, Houston, April 2-4, 1941. Announce-	
ment. The Association Round Table	
A. I. M. E. Petroleum Division, Fall Meeting, Los Angeles, October 17 and 18	2067
Fall Meeting, Tulsa, October 24, 25, 26	2066 1842
Ammonoids, Cretaceous, in Texas Area, Paleoecological Factors Controlling	1042
Distribution of. By Gayle Scott	1164
Anderson, Gustavus Edwin. Memorial by Charles E. Decker	1854
Andrews County, Texas. Geologic Section from Fisher County through, to Eddy	
County, New Mexico. By Robert I. Dickey	37

Antillean-Caribbean Region, Paleogene of Barbados and Its Bearing on History	
and Structure of By Alfred Senn	548
Apco Structure, Pecos County, Texas. Ordovician Development. Geological Note by Taylor Cole	478
	863
	064
, Announcement	704
Appalachian Region, Deep-Sand Developments in, during 1939. By Thurman	
	970
Appalachian Salt Brines, Barium in. Geological Note by E. T. Heck 486, Application and Interpretation of Electric Logs. By R. W. Norton. Abstract	
Applications of Geology, Eighth Annual Report of Committee on. By C. E.	1194
** TO 111	933
Applied Paleontology. By Hubert G. Schenck	752
	145
Are the "Omphalotrochus Beds" of U.S.S.R. Permian? By J. Brookes Knight.	128
Discussion	120
	738
, Southern, and Northern Louisiana, Developments in, during 1939. By	10-
Warren B. Weeks and Joseph Purzer	092
Asperment Pool Discovery, Stonewall County, Texas. Geological Note by Fred	0
	839 162
Association Committees 192, 398, 512, 760, 942, 1146, 1344, 1508, 1692, 1848, 2058, 2:	200
Association Executive Committee Meetings	913
	198
Association Membership List, March 6, 1940. The Association Round Table	523
	694
Association Round Table, The	
	014
Association Subcommittee on the Permian. Classification of Permian Rocks, by	
C. W. Tomlinson et al.	337
At Home and Abroad . 202,403,610,762,948,1154,1348,1524,1701,1858,2061,22 Atwill, E. R. Significant Developments in California, 1939	202
Autry, Vernon E. Discovery of Oil in Ellenburger Formation, K. M. A. Oil	112
	194
Baker, Arthur A., and Williams, James Steele. Permian in Parts of Rocky	
Mountain and Colorado Plateau Regions	517
	579
Bakersfield, California, Coal in Eocene near. Geological Note by Robert W.	12
Clark	576
	382
Balk, Robert, and Ruedemann, Rudolf. Editors of Geology of North America, by Many Authors. Review by W. A. Ver Wiebe	
	34
Barbados, Paleogene of, and Its Bearing on History and Structure of Antillean-	-5
Caribbean Region, By Alfred Senn	348
Barium in Appalachian Salt Brines. Geological Note by E. T. Heck 486,8	
Barnes, Roy M. Twenty Years of Petroleum Geology in California 17 Bartle, Glenn G., and Smith, Rufus M. Relative Porosity and Permeability of	105
Producing Formations of Hugoton Field, Kansas, as Indicated by Gas	
	98
Barton, Donald C. Memorial by F. H. Lahee	21
Bartosh, E. J. Pacific Section Seventeenth Annual Meeting. The Association	
	26
	46
Bass, N. W. Tulsa Geological Society Research Committee Project: Geologic	40
	30

2207

2182

649

Beaumont and Lissie Formations of Gulf Coast of Texas, Deposition of. By R. J. Metcalf 693 Beauregard Parish, Louisiana, Neale Field. Geological Note by H. V. Tygrett. Beede, Joshua William. Memorial by E. R. Cumings 2036 1855 Bell, Alfred H. Developments in Eastern Interior Basin, 1939 and 1940 959 Bell, K. G., Goodman, Clark, and Whitehead, W. L. Radioactivity of Sedimentary Rocks and Associated Petroleum 1529 Bellemin, George J. Petrology of Whittier Conglomerates, Southern California Berger, W. A. Reports of Committee Studying Methods of Electing Officers. 649 The Association Round Table 105 Berl, E. Rôle of Carbohydrates in Formation of Oil and Bituminous Coals. 1865 Billings, M. H., et al. Geophysical Interpretation. Study Group Reports (Houston Geological Society) 372 ngs Field, Noble County, Oklahoma, Structural History of, Interpreted in Terms of Isostasy. By Malvin G. Hoffman 2006 Bishop, Margaret Stearns, Isopachous Studies of Ellsworth to Traverse Limestone Section of Southwestern Michigan Bituminous Coals and Oil, Rôle of Carbohydrates in Formation of. By E. Berl . 1865 Bolivia, Geology of Sub-Andean Belt of. By Glycon de Paiva, Jorge Muñoz Reyes, and Guillermo Mariaca. Review by John L. Rich T686 Bonita Discovery, Montague County, Texas. Geological Note by J. P. Gill
Borden, Joseph L. Review of Geology and Mineral Resources of Washington
County, Oklahoma, by Malcolm C. Oakes. 1838 2185 Born, Kendall E. Lower Ordovician Sandy Zones ("St. Peter") in Middle Tennessee 1641 Bornhauser, Max, and Marshall, Lester R. Three New Interior Salt Domes in Northeast Louisiana. Geological Note 483 Boyd, W. Baxter. Deepest Well in Mid-Continent Region, Washita County, Oklahoma. Geological Note 735 Brace, O. L. Review of Developments in 1939, Gulf Coast of Upper Texas and Louisiana 1079 Brazoria County, Texas, Recent Shoreline Process. Geological Note by William H. Curry 731 British West Indies, Los Bajos Fault of South Trinidad. By C. C. Wilson 2102 Brown, Roland W. Review of Textbook of Paleobotany, by William C. Darrah 750 Buckeye Oil Field, Gladwin County, Michigan. By Carl C. Addison 1950 Buddington, A. F., et al. Source Rocks of Petroleum-A Symposium of Opinion. Discussion . 496 Bulletin Papers, Source of Burgess, V. N. Houston Geological Society. Student Awards 920 2020 Business Committee, Report (Minutes) of. By Ed. W. Owen 923 Butcher, Cary P. Photographs of the Sacramento Mountains. Title 1699 Caballos Novaculite, New Mexico, Probable Lower Mississippian Age of. Geological Note by C. L. Baker 1679 California, Coal in Eocene near Bakersfield. Geological Note by Robert W. 1676 , Eocene Exploration in. By F. A. Menken . 1040 Eocene Yokut Sandstone North of Coalinga. By Robert T. White 1722 Foraminiferal Correlations in Eocene of San Joaquin Valley. By Boris Laiming 1923 Foraminiferal Correlations in the Eocene of the San Joaquin Valley. By Boris Laiming. Review by Hubert G. Schenck 2049 Models of Kettleman Hills North Dome. Geological Note by John H. 740 , Notes on Some Foraminifera from Marysville Buttes. By M. C. Israelsky. Review by Hubert G. Schenck 2051 -, Paloma Oil Field, Kern County. Geological Note by R. W. Clark 742 1330 III2

, Southern, Petrology of Whittier Conglomerates. By George J. Bellemin

Note by Lore David

, Strand Oil Field, Kern County. Geological Note by F. A. Menken	1333
Review by William S. W. Kew	1841
The Stevens Sand, Southern San Joaquin Valley. By Rollin Eckis.	1041
Abstract, Thrust Faulting and Coarse Clastics in Temblor Range. By F. S. Hudson	2195
and G. H. White. Abstract	2193
, Twenty Years of Petroleum Geology in. By Roy M. Barnes	1705
California Fossils for the Field Geologist. By Hubert G. Schenck and A. Myra	
Keen. Review by Robert T. White	2186
Cambrian and Pre-Cambrian Relations in East-Central Minnesota. Geological Note by A. J. Crowley and G. A. Thiel	744
Camp County, Texas, Pittsburg Field. Geological Note by H. C. Vanderpool.	744
Campbell, Robert B. Review of Scenery of Florida, by C. Wythe Cooke	504
Canada, Paleozoic Limestone of Turner Valley, Alberta. By W. D. C. Mac-	
kenzie	1620
Cannel Coal and Oil Shale. By Institute of Petroleum, Review by Hugh D.	-00
Miser Cannon, R. L. Section Encountered in the Krupp Wells, Hudspeth County,	388
Texas. Abstract	1699
Carbohydrates in Formation of Oil and Bituminous Coals, Rôle of. By E. Berl .	1865
Carboniferous, Sub-Committue on. By John G. Bartram. The Association Round	
Table	1346
Carboniferous-Permian Boundary. By Raymond C. Moore	282
and Structure of. By Alfred Senn	1548
Carlton, D. P. Memorial of Walter Winthrop Scott	944
Carroll, Dorothy. Possibilities of Heavy-Mineral Correlation of Some Permian	
Sedimentary Rocks, New South Wales	636
——, Possibilities of Heavy-Mineral Correlation of Some Permian Sedi- mentary Rocks, New South Wales. Discussion by H. G. Raggatt and Irene	
Crespin	1682
Central American Snakes (Serpientes Venenosas de Costa Rica). By C. Picado	1001
T. Review by William W. Porter II	383
Central Basin Platform, Whitehorse-San Andres Contact on and Adjacent to.	
By R. T. Cox and N. B. Winter. Abstract	1700
Chemical Engineering in Petroleum Exploration and Production. By P. E. Fitz- gerald	1361
Cheney, M. G. Geology of North-Central Texas	65
Cheney, M. G., et al. Classification of Permian Rocks	337
Chester Series in Illinois, Subsurface Geology of. By L. E. Workman	209
Chevalier, Jerome Archibald. Memorial by L. E. Kennedy	2060
Chicago Convention Activities Announcement. The Association Round Table	607
Chinati Mountains, Presidio County, Texas, Upper Paleozoic Section of. By	,,001
John W. Skinner	180
Christner, D. D. Todd Ranch Discovery, Crockett County, Texas. Geological	
Note.	1126
Clark, G. C. Rogers Pool, Montague County, Texas. Geological Note	1836
Clark, Robert W. Coal in Eocene near Bakersfield, California. Geological Note.  ———, Paloma Oil Field, Kern County, California. Geological Note	1676 742
Classification of Permian Rocks. By C. W. Tomlinson et al	337
Classification and Correlation of the Type Permian. By Carl O. Dunbar	237
Classification and Economic Use of Foraminifera. By Joseph A. Cushman. Re-	
view by Byron N. Cooper	1498
Clay County, Texas, Henderson Pool Discovery. Geological Note by George P.	7.405
Hardison  Coal in Eocene near Bakersfield, California. Geological Note by Robert W.	1495
Clark	1676
Coalinga, California, Eocene Yokut Sandstone North of. By Robert T. White.	1722
Coarse Clastics and Thrust Faulting in Temblor Range, California. By F. S.	
Hudson and G. H. White. Abstract	2193
Coastal Leads and Louislana, Downlin Wilcox (Eocene) of DV I. A. Culdertson	1801

2209

Code of Ethics of The American Association of Petroleum Geologists. The Association Round Table	151
Cogen, William M. Heavy-Mineral Zones of Louisiana and Texas Gulf Coast	
Sediments	206
Geological Note Cole, Taylor, and Linehan, C. M. Insoluble-Residue Study of the Holt "Pay,"	47
Ector County, Texas. Abstract	93
Colombia and Venezuela, Jurassic-Cretaceous (Girón) Beds in. By Victor Oppenheim	161
Colorado Plateau and Rocky Mountain Regions, Permian in Parts of. By Arthur A. Baker and James Steele Williams	61
Colton, Earl G. Memorial of Henry Arthur Nedom	115
Columbia County, Dorcheat Pool, Deepest in Arkansas. Geological Note by H. Harold Trager	73
Committee on Mimeographed Publications. By L. C. Snider. The Association Round Table	114
Committee Appointments. By L. C. Snider. The Association Round Table. Conglomerates, Whittier, Southern California, Petrology of. By George J. Bellemin	114
Constitution and By-Laws of The American Association of Petroleum Geolo-	04
gists. The Association Round Table	151
Round Table	60
——, Report of. By William B. Heroy  Cook Mountain Formation, New Zone in, the Crassatella texalta Harris—Tur-	92
ritella cortezi Bowles Zone. By H. B. Stenzel	166
Cooke, C. Wythe. Scenery of Florida. Review by Robert B. Campbell	50
Cooper, Byron N. Review of Foraminifera. Their Classification and Economic Use, by Joseph A. Cushman	149
Coöperation between Advanced Students and Men of the Petroleum Industry.	
By S. A. Lynch. Research Notes	60.
Heavy-Mineral, of Some Permian Sedimentary Rocks, New South Wales,	219
Possibilities of. By Dorothy Carroll	63
of Pennsylvanian Rocks of New Mexico. By C. E. Needham	17,
By Boris Laiming. Review by Hubert G. Schenck	204
Correlation and Classification of the Type Permian. By Carl O. Dunbar	23
Correlations, Foraminiferal, in Eocene of San Joaquin Valley, California. By Boris Laiming	192
Cox, R. T., and Winter, N. B. Whitehorse-San Andres Contact on and Adjacent	192,
to Central Basin Platform. Abstract	1700
Crane County, Texas, Sand Hills Area. By Elliot H. Powers	II
Mountain Formation. By H. B. Stenzel	166
Crawford, J. G. Oil-Field Waters of Wyoming and Their Relation to Geological Formations	1214
Crespin, Irene, and Raggatt, H. G. Discussion of Possibilities of Heavy-Mineral	
Correlation of Some Permian Sedimentary Rocks, New South Wales, by Dorothy Carroll	1682
Cretaceous Ammonoids in Texas Area, Paleoecological Factors Controlling Dis-	
tribution of. By Gayle Scott . Cretaceous-Jurassic (Girón) Beds in Colombia and Venezuela. By Victor Oppen-	1164
heim	1611
vain J. Pirson	1464
Crockett County, Texas, Todd Ranch Discovery. Geological Note by D. D. Christner	1126
Crowley, A. J., and Thiel, G. A. Pre-Cambrian and Cambrian Relations in East-	
Central Minnesota. Geological Note	744

Crude Oils, Geologic Relationships of: Tulsa Geological Society Research Com-	
mittee Project. By N. W. Bass	930
——, Permian, Microscopic Examination of. Geological Note by Ronald K.	2181
Culbertson, J. A. Downdip Wilcox (Eocene) of Coastal Texas and Louisiana .	1801
Cumings, E. R. Memorial of Joshua William Beede	1855
Curry, William H. Recent Shoreline Process, Brazoria County, Texas. Geological	- 00
Note.	731
Cushman, Joseph A. Foraminifera, Their Classification and Economic Use.	0
Review by Byron N. Cooper	1498
Daly, Reginald A., et al. Source Rocks of Petroleum-A Symposium of Opinion.	
Discussion	496
Daniel, Orion A., and Lovejoy, J. B. Jones County, Texas, Discovery. Geological	
Note.	2180
Darrah, William C. Textbook of Paleobotany. Review by Ronald W. Brown .	750
David, Lore. Miocene Fishes in Well Cores from Torrance in Southern California. Geological Note	2182
Dawson, Joseph M. Mississippi Geological Society, December 6-8. Field Trips	2068
Decker, Charles E. Memorial of Gustavus Edwin Anderson	1854
Deep-Sand Developments in Appalachian Region during 1939. By Thurman H.	
Myers	970
Deepest Well in Mid-Continent Region, Washita County, Oklahoma. Geological	
Note by W. Baxter Boyd	735
DeFord, Ronald K. Insoluble Residues in the Whitehorse and Salado of New Mexico. Abstract	1699
, Microscopic Examination of Permian Crude Oils. Geological Note	2181
Permian Conference. Research Notes	604
DeFord, Ronald K., and Lloyd, E. Russell. Editorial Introduction to West	
Texas-New Mexico Symposium. Part I	1
DeGolyer, E. Future Position of Petroleum Geology in the Oil Industry	1389
——, Memorial of Edwin Butcher Hopkins	1851
Wilber Stout and Carl A. Lamey	672
de Paiva, Glycon, Reyes, Jorge Muñoz, and Mariaca, Guillermo. Geology of	0,-
Sub-Andean Belt of Bolivia, Review by John L. Rich	1686
Deposition of Lissie and Beaumont Formations of Gulf Coast of Texas. By	
R. J. Metcalf	693
Development, Oil and Gas Field, in the United States, 1939. By the National Oil Scouts and Landmen's Association. Review by G. S. Dillé	1685
Developments, Deep-Sand, in Appalachian Region during 1939. By Thurman	1005
H. Myers	970
, in East Texas during 1939. By H. J. McLellan and E. A. Wendlandt	1062
, in Eastern Interior Basin, 1939 and 1940. By Alfred H. Bell , in Michigan during 1939. By R. B. Newcombe	959
, in Michigan during 1939. By R. B. Newcombe	974
, in 1939, Gulf Coast of Upper Texas and Louisiana, Review of. By O. L.	7070
Brace in North and West-Central Texas, 1030. By Karl A. Mygdal	1079
in North Mid-Continent in 1939. By Edward A. Koester and Robert F.	1044
Meyer	994
, in Oklahoma during 1939. By E. F. Shea	1011
, in Rocky Mountain Region in 1939. By C. E. Dobbin	,1347
, in Southern Arkansas and Northern Louisiana during 1939. By Warren	1002
B. Weeks and Joseph Purzer	1092
M. Secor, W. C. Fritz, and W. W. West	1033
Recent, in Geochemical Prospecting, Critical Survey of. By Sylvain J.	00
Pirson	1464
Recent, in South Mid-Continent. By Lewis W. MacNaughton	1025
, Significant, in California, 1939. By E. R. Atwill	1112
Developments and Status of Oil Reserves in South Texas, 1939. By L. B. Herring Devonian System of West Virginia, Résumé of. By Paul H. Price and Herbert	1069
P. Woodward	1983

Diatomaceous Sediments, Marine, The Accumul	ation of. By Richard H. Flem-	
ing and M. C. Sargent. Abstract		2194
Dickey, Robert I. Geologic Section from Fis	her County through Andrews	
County, Texas, to Eddy County, New Mex Dictionary of Geological Terms. By C. M. Rice.	ico	37
Dictionary of Geological Terms. By C. M. Rice.	Review by John T. Rouse . 1	1499
Dillé, G. S. Review of Oil and Gas Field Deve		
1939, by the National Oil Scouts and Land		1685
Discovery of Oil in Ellenburger Formation, K. M		
Texas. Geological Note by Vernon E. Autry		1494
Discussion		2030
McDermott, R. H. Fash et al	Area Paleoecological Factors	1434
Controlling. By Gayle Scott		1164
Division of Geology and Geography of the Nati	onal Research Council Report	1104
of the Representative of the Association of	n Ry Frederic H Lahee The	
Association Round Table		1148
Dobbin, C. E. Developments in Rocky Mountain		
——, Eighth Annual Report of Committee on		933
Dodge, John F., Pyle, Howard C., and Trostel,	Everett G. The Estimation by	933
Volumetric Methods of Recoverable Oil an		2194
Dorcheat Pool, Columbia County, Deepest in Ar	kansas, Geological Note by H.	94
Harold Trager	in the state of th	738
Dott, Robert H., et al. Classification of Permian	Rocks	337
Downdip Wilcox (Eocene) of Coastal Texas and		1891
Drilling, Wildcat, in 1939. By Frederic H. Laher		953
Driver, Herschel L. The Rôle of Foraminifera in		2194
Dunbar, Carl O. The Type Permian: Its Classifi		237
, et al. Are the "Omphalotrochus Beds" of		-01
sion		1128
Dunn, David A. Where Should Young Graduates	in Petroleum Geology Acquire	
Field Experience? Discussion		2047
Durham, I. Wyatt, Oeloe Aer Fault Zone, Suma	tra. Geological Note	359
Duval County, Texas, Hoffman Field. By Harve	y Whitaker 2	126
, Sejita Structure. Geological Note by C	arleton D. Speed, Jr	482
East Texas, Developments in, during 1939. By H		
landt	I	062
Eastern Interior Basin, Developments in, 1939	ind 1940. By Alfred H. Bell .	959
, Mississippian Border of. By J. Marvin V		133
Eastern Midland Basin, Texas, Stratigraphy. I	By Lincoln R. Page and John	
Emery Adams	in the pint ini	52
Easternmost Ventura Basin, California, Stratig		0
Review by William S. W. Kew		841
Eaton, J. E. Ecologic Factors in Correlation. Ab		1196
Eby, J. Brian. Twenty-Fifth Annual Meeting, C		00-
Association Round Table		889
Eckhardt, E. A. Geophysics		377
		204
Eckis, Rollin. The Stevens Sand, Southern San J		TOF
stract		195
Economic and Statistical Aspects of the Petrole		190
zalez et al. Study Group Reports (Houston G		363
Economic Paleontologists and Mineralogists, Soci		303
Table		804
Economic Use and Classification of Foraminifera		094
view by Byron N. Cooper		498
Ector County, Texas, South-North Cross Section		440
Roosevelt County, New Mexico. By William	C. Fritz and James Fitzgerald	15
Eddy County, New Mexico, Geologic Section	from Fisher County through	-3
Andrews County, Texas, to. By Robert I. D		37
,,,,,,,		40

Editor, Report of. By W. A. Ver Wiebe	919
Ronald K. DeFord and E. Russell Lloyd	1
Dobbin	933
Electing Officers, Reports of Committee Studying Methods of. By W. A. Berger. The Association Round Table	195
Electric Logs, Interpretation and Application of. By R. W. Norton. Abstract . Eleventh Annual Meeting, Society of Exploration Geophysicists, Chicago, April	2194
9, 10, and 11, 1940. Announcement. The Association Round Table Ellenburger Formation, Discovery of Oil in, K. M. A. Oil Field, Wichita County,	400
Texas. Geological Note by Vernon E. Autry	1494
Ellisor, Alva C. Subsurface Miocene of Southern Louisiana Ellsworth to Traverse Limestone Section of Southwestern Michigan, Isopachous	435
Studies of. By Margaret Stearns Bishop  Engineering, Chemical, in Petroleum Exploration and Production. By P. E.	2150
Fitzgerald	1361
——, Petroleum, as an Aid in Exploration Geology. By C. V. Millikan Eocene, Coal in, near Bakersfield, California. Geological Note by Robert W.	1370
Clark	1676
——, Downdip Wilcox, of Coastal Texas and Louisiana. By J. A. Culbertson of San Joaquin Valley, California. Foraminiferal Correlations in. By	1891
Boris Laiming	1923
—— of San Joaquin Valley, California, Some Foraminiferal Correlations in. By Boris Laiming. Review by Hubert G. Schenck	2049
Eocene Exploration in California. By F. A. Menken	1940
Eocene Yokut Sandstone North of Coalinga, California. By Robert T. White . Estimation by Volumetric Methods of Recoverable Oil and Gas from Sands. By	1722
John F. Dodge, Howard C. Pyle and Everett G. Trostel. Abstract  Executive Committee. American Association of Petroleum Geologists. The	2194
Association Round Table	894 602
Survey of Geological Curricula in Universities and Colleges in United	002
States. The Association Round Table	602
Executive Committee Meetings  Experimental Oil Wells, Water Cones and Water Sheaths in. By F. B. Plummer	913
and H. K. Livingston	2163
Exploration, Eocene, in California, By F. A. Menken	1940
Exploration and Production, Petroleum, Chemical Engineering in. By P. E.	2100
Fitzgerald	1361
Exploration Geophysicists, Society of. The Association Round Table	894
, Society of. Technical Program, April 9. The Association Round Table .	905
Exploration Geophysics. By J. J. Jakosky. Review by Paul Weaver	2186
Exploration Methods. Foreword. By A. I. Levorsen	1353
Farish, Linn M. Review of Water Supplies in 'Iraq, by W. A. Macfadyen	751
Fash, R. H. Theoretical Consideration of the Basis for the Use of Soil Analyses in	
Locating Oil Pools Fash, R. H., Rosaire, E. E., McDermott, Eugene, et al. Discussion of Geochemical	1444
Exploration (Soil Analysis)	1434
Fault, Los Bajos, of South Trinidad, B. W. I. By C. C. Wilson Field Experience, Where Will Young Graduates in Petroleum Geology Acquire	2102
It? By Frederic H. Lahee, Where Should Young Graduates in Petroleum Geology Acquire It?	1386
Discussion by David A. Dunn	2047
Field Geologist, California Fossils for the. By Hubert G. Schenck and A. Myra Keen. Review by Robert T. White	2186
Field Studies, Recent, in Osage, Washington, and Nowata Counties, Oklahoma,	2100
Results of. By Malcolm C. Oakes	716

Field Trips	2068
Round Table	, 912
Financial Statement, 1939. The Association Round Table	514
——, Division of Paleontology and Mineralogy. The Association RoundTable	519
Finn, F. H. Our Experience with the Underground Storage of Gas (The Peoples Natural Gas Company). Geological Note	1482
Fisher County through Andrews County, Texas. Geologic Section from, to Eddy	-4011
Fisher County through Andrews County, Texas. Geologic Section from, to Eddy County, New Mexico. By Robert I. Dickey	37
Fishes, Miocene, in Well Cores from Torrance in Southern California. Geological Note by Lore David	2182
FitzGerald, Jr., James, and Fritz, William C. South-North Cross Section from	2102
Pecos County through Ector County, Texas, to Roosevelt County, New Mexico	
Fitzgerald, P. E. Chemical Engineering in Petroleum Exploration and Produc-	15
tion	1361
Fleming, Richard H., and Sargent, M. C. The Accumulation of Marine Diato-	
maceous Sediments, Abstract	2194
Florida, Scenery of. By C. Wythe Cooke. Review by Robert B. Campbell Foraminifera from Marysville Buttes, California, Notes on Some. By M. C.	504
Israelsky. Review by Hubert G. Schenck	2051
- in Zonal Paleontology. By Bradford C. Adams. Review by Hubert G.	-
Schenck	2049
, Rôle of, in the Oil Industry. By Herschel L. Driver. Abstract	2194
by Byron N. Cooper	7.408
Foraminiferal Correlations in Eocene of San Joaquin Valley, California. By	1498
Boris Laiming	1923
, Some, in the Eocene of the San Joaquin Valley, California. By Boris	
Laiming. Review by Hubert G. Schenck	2049
Foreign Geology Conference at Chicago Convention. By Winthrop P. Haynes. Research Notes	604
Foreword to Exploration Methods. By A. I. Levorsen	1353
Formation of Oil and Bituminous Coals, Rôle of Carbohydrates in. By E. Berl .	1865
Formations, Surface, in Mississippi. Geological Note by Urban B. Hughes,	
Robert R. Harbison, et al	2033
Fossils, California, for the Field Geologist. By Hubert G. Schenck and A. Myra Keen. Review by Robert T. White	2186
Fourteenth Annual Meeting, Society of Economic Paleontologists and Mineralo-	2100
gists, Chicago, April 11, 1940. Announcement. The Association Round Table	400
Franklin Mountains, West Texas, Paleozoic Stratigraphy of. By L. A. Nelson	157
Fritz, William C., and FitzGerald, Jr., James. South-North Cross Section from	
Pecos County through Ector County, Texas, to Roosevelt County, New Mexico	15
Fritz, W. C., Secor, Dana M., and West, W. W. Developments in West Texas and	-3
Southeastern New Mexico during 1939	1033
Frost, V. L. Ramsey Oil Pool, Payne County, Oklahoma	1995
Future Position of Petroleum Geology in the Oil Industry. By E. DeGolyer .	1389
Galliher, E. W. Review of Report of the Committee on Sedimentation, 1938-	
1939, by Parker D. Trask et al	386
Gardner, Frank J. Relationship of Unconformities to Oil and Gas Accumulations.	
Student Awards	2022
	2021
Gardner, Julia. New Rangia from Upper Miocene of Western Gulf Province Gas and Oil Field Development in the United States, 1939. By the National Oil	476
Scouts and Landmen's Association. Review by G. S. Dillé	1685
Gas Fields in Kansas, Larger. By J. H. Page	1779
Gas Potentialities and Geology of Marysville Buttes. By Harry R. Johnson.	
Abstract	2195
Producing Formations of Hugoton Field, Kansas, as Indicated by. By	
Glenn G. Bartle and Rufus M. Smith	1798

Geochemical Exploration (Soil Analysis) with Some Speculation about the Genesis of Oil and Gas Accumulation. By Eugene McDermott	850
Geochemical Prospecting, Critical Survey of Recent Developments in. By Syl-	-39
vain J. Pirson	1464
, for Petroleum. By Esme Eugene Rosaire	1400
Geographic Distribution of Members	
Geologic Names and Correlations, Report of Committee on. By John G. Bar-	915
tram	926
Geologic Relationships of Crude Oils: Tulsa Geological Society Research Com-	
mittee Project. By N. W. Bass	930
Geologic Section from Fisher County through Andrews County, Texas, to Eddy	
County, New Mexico. By Robert I. Dickey	37
Geological Formations, Oil-Field Waters of Wyoming and Their Relation to. By	
J. G. Crawford	1214
Geological Notes 359,478,731,1126,1330,1475,1676,1836,2032	2,2180
Geological Society of America, Fifty-Third Annual Meeting, Austin, Texas,	
December 26–28, 1040, Announcement, The Association Round Table	1703
Geological Terms, Dictionary of. By C. M. Rice. Review by John T. Rouse	1499
Geologist, Field, California Fossils for the. By Hubert G. Schenck and A. Myra	
Keen. Review by Robert T. White	2186
Geology, Eighth Annual Report of Committee on Applications of	933
— in the Petroleum Industry. By Wallace E. Pratt	1200
of North America. By Many Authors. Review by W. A. Ver Wiebe .	1134
of North-Central Texas. By M. G. Cheney	65
——— of the Sub-Andean Belt of Bolivia. By Glycon de Paiva, Jorge Muñoz	
Reyes, and Guillermo Mariaca. Review by John L. Rich	1686
, Subsurface, of Chester Series in Illinois. By L. E. Workman	200
, Subsurface, of Iowa (Lower Mississippian) Series in Illinois. By J. Nor-	
man Payne	225
Geology and Gas Potentialities of Marysville Buttes. By Harry R. Johnson.	
Abstract	2195
Geology and Geophysics, Partnership between, in Prospecting for Oil. By E. A.	
Eckhardt	1204
Geology and Mineral Resources of Washington County, Oklahoma. By Malcolm	
C. Oakes. Review by Joseph L. Borden	2185
Geophysical Exploration. By C. A. Heiland. Review by Paul Weaver	2186
Geophysical Interpretation. By M. H. Billings et al. Study Group Reports (Hous-	
ton Geological Society)	372
Geophysical Prospecting for Oil. By L. L. Nettleton. Review by Paul Weaver .	2186
Geophysics. By E. A. Eckhardt	1377
Exploration. By J. J. Jakosky. Review by Paul Weaver	2186
Practical Petroleum, Lecture Notes on. By Garrett Kemp. Review by	
Michel T. Halbouty	1339
Geophysics and Geology, Partnership between, in Prospecting for Oil. By E. A.	
Eckhardt	1204
Gill, J. P. Bonita Discovery, Montague County, Texas. Geological Note	1838
Ginter, Roy. Review of Inferences about Origin of Oil as Indicated by Composi-	
tion of Organic Constituents of Sediments, by Parker D. Trask	506
Girón (Jurassic-Cretaceous) Beds in Colombia and Venezuela. By Victor Oppen-	
heim	1611
Gladwin County, Michigan, Buckeye Oil Field. By Carl C. Addison	1950
Gonzalez, R. J., et al. Economic and Statistical Aspects of the Petroleum Indus-	,,
try. Study Group Reports (Houston Geological Society)	363
Goodman, Clark, Bell, K. G., and Whitehead, W. L. Radioactivity of Sediment-	-
ary Rocks and Associated Petroleum	1529
Graduates in Petroleum Geology, Young, Where Will They Acquire Field Ex-	-
perience? By Frederic H. Lahee	1386
Discussion by David A. Dunn	2047
Gravity Observations, Recent, in Southeastern Oklahoma, Structural Interpre-	
tation of. By Thomas A. Hendricks	2143
Gravity Prospecting, Quantitative Introduction to. By Frederic Romberg.	
Abstract	2193
Grönland 1939. By C. E. Wegmann et al. Review by Robert Balk	882

Gulf Coast of Texas, Deposition of Lissie and Beaumont Formations of. By	
R. J. Metcalf	693
O. L. Brace	1079
Gulf Coast Sediments, Louisiana and Texas, Heavy-Mineral Zones of. By	10/5
William M. Cogen	2069
Gulf Province, Western, New Rangia from Upper Miocene of. By Julia Gardner	476
Haase, Fred M. Aspermont Pool Discovery, Stonewall County, Texas. Geological	1839
Halbouty, Michel T. Review of Lecture Notes on Practical Petroleum Geophysics, by Garrett Kemp	
Halbouty, Michel T., et al. Sedimentation. Study Group Reports (Houston Geology Society)	374
Handbook of Rocks, By J. F. Kemp. Review by W. C. Krumbein	1498
Harbison, Robert R., Hughes, Urban B., et al. Surface Formations in Mississippi.	
Geological Note	2033
cal Note	1495
Haynes, Winthrop P. Foreign Geology Conference at Chicago Convention. Research Notes	604
Heavy-Mineral Correlation of Some Permian Sedimentary Rocks, New South	004
Wales, Possibilities of. By Dorothy Carroll	636
——. Discussion by H. G. Raggatt and Irene Crespin	1682
M. Cogen	2060
Heck, E. T. Barium in Appalachian Salt Brines. Geological Note 48	6,887
cal Note	1475 2186
Henderson Pool Discovery, Clay County, Texas. Geological Note by George P.	2100
Hardison	1495
Hendricks, Leo. A Study of Surface Stratigraphy of Ellenburger Formation of	
Texas. Abstract	1698
tions in Southeastern Oklahoma	2143
Heroy, William B. Report of Constitutional Committee	923
Herring, L. B. Developments and Status of Oil Reserves in South Texas, 1939	1069
History and Structures of Antillean-Caribbean Region, Paleogene of Barbados	0
and Its Bearing on. By Alfred Senn Hoffman, Malvin G. Structural History of Billings Field, Noble County, Okla-	1548
homa, Interpreted in Terms of Isostasy	2006
Hoffman Field, Duval County, Texas. By Harvey Whitaker	2126
Holt "Pay," Ector County, Texas, Insoluble-Residue Study of. By Taylor Cole	
and C. M. Linehan. Abstract	1700
Hopkins, Edwin Butcher. Memorial by E. DeGolyer	1851
Industry, by R. J. Gonzales et al. Study Group Reports	363
, Geophysical Interpretation, by M. H. Billings et al. Study Group Re-	0-0
ports	372
, Notes on the Frio, by M. C. Israelsky. Study Group Reports	376
V. N. Burgess and Charles Roberts, Jr. Student Awards	374
Howard, W. V. Review of This Fascinating Oil Business, by Max W. Ball	883
Hudson, F. S., and White, G. H. Thrust Faulting and Coarse Clastics in Temblor	- 0
Range, California. Abstract	2193
sippi. Geological Note	2033
Hugoton Field, Kansas, Relative Porosity and Permeability of Producing For-	
mations of, as Indicated by Gas Withdrawals and Pressure Decline. By Glenn G. Bartle and Rufus M. Smith	T 700
Hydrogenation of Oil: Suggested Natural Source of Hydrogen. Geological Note	1798
by E. T. Heck	1475

Illinois, Subsurface Geology of Chester Series in. By L. E. Workman Subsurface Geology of Iowa (Lower Mississippian) Series in. By J.	209
Norman Payne	225
Illinois Geological Society. The Association Round Table Inferences about Origin of Oil as Indicated by Composition of Organic Constitu-	894
ents of Sediments. By Parker D. Trask. Review by Roy Ginter.  Inglewood Oil Field, Recently Discovered Deep Miocene Production in. By  A. F. Woodword. Abstract	506
Insoluble-Residue Study of the Holt "Pay," Ector County, Texas. By Taylor Cole and C. M. Linehan. Abstract	2195
Insoluble Residues in the Whitehorse and Salado of New Mexico. By Ronald K. DeFord. Abstract	1700
Institute of Petroleum. Oil Shale and Cannel Coal. Review by Hugh D. Miser Interior Basin, Eastern, Mississippian Border of. By J. Marvin Weller and A. H.	1699 388
	,1133
by Max Bornhauser and Lester R. Marshall	483
Interpretation and Application of Electric Logs. By R. W. Norton. Abstract .	2194
Iowa, Log of Wildcat Well, Union County. Geological Note by W. E. McHugh. Iowa (Lower Mississippian) Series in Illinois, Subsurface Geology of. By J.	1495
Norman Payne 'Iraq, Water Supplies in. By W. A. Macfadyen. Review by Linn M. Farish	75I
Isopachous Studies of Ellsworth to Traverse Limestone Section of Southwestern Michigan. By Margaret Stearns Bishop	2150
Isostasy, Structural History of Billings Field, Noble County, Oklahoma, Interpreted in Terms of. By Malvin G. Hoffman	2006
Israelsky, M. C. Notes on Some Foraminifera from Marysville Buttes, Califor-	2000
nia. Review by Hubert G. Schenck	2051
Notes on the Frio. Study Group Reports (Houston Geological Society)	376
Jahns, Richard H. Stratigraphy of Easternmost Ventura Basin, California.  Review by William S. W. Kew	1841
Jakosky, J. J. Exploration Geophysics. Review by Paul Weaver Jones County, Texas, Discovery. Geological Note by Orion A. Daniel and J. B.	2186
Lovejoy Johnson, Harry R. Geology and Gas Potentialities of Marysville Buttes.	2180
Abstract Jurassic-Cretaceous (Girón) Beds in Colombia and Venezuela. By Victor Oppen- heim	2195 1611
K. M. A. Oil Field, Wichita County, Texas, Discovery of Oil in Ellenburger For-	1011
mation. Geological Note by Vernon E. Autry	1494
Kansas, Larger Gas Fields in. By J. H. Page	1779
Relative Porosity and Permeability of Producing Formations of Hugo- ton Field, as Indicated by Gas Withdrawals and Pressure Decline. By	
Glenn G. Bartle and Rufus M. Smith	1798
Kansas Geological Society, August 26–September 1, 1940. Field Trips . 1352, Keen, A. Myra. The Percentage Method of Stratigraphic Dating. Review by Hu-	
bert G. Schenck Keen, A Myra, and Schenck, Hubert G. California Fossils for the Field Geolo-	2051
	2186
Michel T. Halbouty	1339
	1498
Kennedy, L. E. Memorial of Jerome Archibald Chevalier	2060 742
	1330
	1333
Kettleman Hills North Dome, California, Models of. Geological Note by John H. Maxson	740
Kew, William S. W. Review of Stratigraphy of Easternmost Ventura Basin,	
King, Philip B. Older Rocks of Van Horn Region, Texas	1841 143
, Robert E. Are the "Omphalotrochus Beds" of the U.S.S.R. Permian?	1128

2217

Knight, J. Brookes, et al. Are the "Omphalotrochus Beds" of U.S.S.R. Permian?	
Discussion	112
Knopf, Adolph, et al. Source Rocks of Petroleum—A Symposium of Opinion.  Discussion	49
Koester, Edward A., and Meyer, Robert F. Developments in North Mid-Con-	
tinent in 1939	99
Krumbein, W. C. Review of a Handbook of Rocks, by J. F. Kemp.	152
•	- 49
Lahee, Frederic H. Memorial of Donald C. Barton  — Report of the Representative of the Association on Division of Geology and Geography of National Research Council. The Association Round	152
Table	114
Where Will Young Graduates in Petroleum Geology Acquire Field	3,150
Experience?	1386
Laiming, Boris. Foraminiferal Correlations in Eocene of San Joaquin Valley,	953
California	192
Some Foraminiferal Correlations in the Eocene of the San Joaquin	- , - ,
Valley, California. Review by Hubert G. Schenck	2049
Lamey, Carl A., and Stout, Wilber. Paleozoic and Pre-Cambrian Rocks of Vance Well, Delaware County, Ohio	672
Larger Gas Fields in Kansas. By J. H. Page	1779
Larsen, Esper S., et al. Source Rocks of Petroleum—A Symposium of Opinion.	
Discussion	496
Lecture Notes on Practical Petroleum Geophysics. By Garrett Kemp. Review by Michel T. Halbouty	1339
Leighton, M. M. Address of Welcome at the Twenty-Fifth Annual Meeting of	*339
the Association	1157
LeVene, Clara M., and Schuchert, Charles. O. C. Marsh, Pioneer in Paleontol-	-69.
ogy. Review by W. H. Twenhofel	1684
Petroleum Geology	1355
Report of Chairman of Research Committee	927
Lewis, Frank E. Position of the San Andres Group, West Texas and New	*600
Mexico. Abstract	1699
Ley, Henry A. Occupational Survey of Membership. The Association Round Table	194
	907
Response to Address of Welcome at the Twenty-Fifth Annual Meeting of the Association	1159
Student Awards. The Association Round Table	194
——. This Association	1162
Limestone, Paleozoic, of Turner Valley, Alberta, Canada. By W. D. C. Mac-	-6
kenzie Linehan, C. M., and Cole, Taylor. Insoluble-Residue Study of the Holt "Pay,"	1620
Ector County Texas Abstract	1700
Link, T. A., et al. Source Rocks of Petroleum—A Symposium of Opinion. Dis-	
cussion	496
R. I. Metcalf	693
Livingston, H. K., and Plummer, F. B. Water Cones and Water Sheaths in Ex-	
perimental Oil Wells	2163
Lloyd, E. Russell, and DeFord, Ronald K. Editorial Introduction to West Texas-New Mexico Symposium. Part I	1
Log of Wildcat Well, Union County, Iowa, Geological Note by W. E. McHugh	1495
Los Bajos Fault of South Trinidad, B. W. I. By C. C. Wilson	2102
Louisiana, Neale Field, Beauregard Parish. Geological Note by H. V. Tygrett.	2036
, Northeast, Three New Interior Salt Domes in. Geological Note by Max Bornhauser and Lester R. Marshall	483
Northern, and Southern Arkansas, Developments in, during 1939. By	4-0
Warren B. Weeks and Joseph Purzer	1092
, Southern, Subsurface Miocene of. By Alva C. Ellisor	435

Louisiana and Coastal Texas, Downdip Wilcox (Eocene) of. By J. A. Culbertson Louisiana and Texas, Sparta-Wilcox Trend. By John D. Todd and Frank C.	1891
Roper Louisiana and Texas Gulf Coast Sediments, Heavy-Mineral Zones of. By	701
William M. Cogen Louisiana and Upper Texas, Review of Developments in Gulf Coast of, in 1939.	2069
By O. L. Brace Lovejoy, J. B., and Daniel, Orion A. Jones County, Texas, Discovery. Geo-	1079
logical Note Lower Mississippian Age, Probable, of Caballos Novaculite, New Mexico. Geological Note by C. L. Baker	2180
Lower Ordovician Sandy Zones ("St. Peter") in Middle Tennessee. By Kendall	1679
E. Born Lynch, S. A. Coöperation between Advanced Students and Men of the Petroleum	1641
Industry. Research Notes	604
McDermott, Eugene. Geochemical Exploration (Soil Analysis) with Some Speculation about the Genesis of Oil and Gas Accumulation	859
ion. Discussion McDermott, Eugene, Rosaire, E. E., Fash, R. H., et al. Discussion of Geochemical	496
Exploration (Soil Analysis)	1434
Macfadyen, W. A. Water Supplies in 'Iraq. Review by Linn M. Farish	751
McHugh, W. E. Log of Wildcat Well, Union County, Iowa. Geological Note . Mackenzie, W. D. C. Paleozoic Limestone of Turner Valley, Alberta, Canada .	1495
Male llen H. L. and Wandlandt F. A. Davidenments in Fast Toyog during voca	1620
McLellan, H. J., and Wendlandt, E. A. Developments in East Texas during 1939	1062
MacNaughton, Lewis W. Recent Developments in South Mid-Continent .  Manufacturers Light and Heat Company, The, Pittsburgh, Pennsylvania, Our Experience with Underground Storage of Gas. Geological Note by E. O.	1025
Schillhahn Mariaca, Guillermo, de Paiva, Glycon, and Reyes, Jorge Muñoz. Geology of	1478
Sub-Andean Belt of Bolivia. Review by John L. Rich	1686
ing and M. C. Sargent. Abstract Marsh, O. C., Pioneer in Paleontology, By Charles Schuchert and Clara M.	2194
LaVene. Review by W. H. Twenhofel  Marshall, Lester R., and Bornhauser, Max. Three New Interior Salt Domes in	1684
Marysville Buttes. California, Notes on Some Foraminifera from. By M. C.	483
Israelsky. Review by Hubert G. Schenck	2051
Geology and Gas Potentialities of. By Harry R. Johnson. Abstract	2195
Matson, George Charlton. Memorial by W. B. Wilson  Maxson, John H. Models of Kettleman Hills North Dome, California. Geological	606
Note Membership Applications Approved for Publication	740
191,396,406,510,603,756,888,1139,1343,1503,1691,1847,2056, , Additional	2199
Membership Data	914
Membership List, Association, March 6, 1940. The Association Round Table	523
	1694
Memorial	
	1160
Menken, F. A. Eocene Exploration in California	1940
— Strand Oil Field, Kern County, California. Geological Note	1333
Method, Percentage, of Stratigraphic Dating. By A. Myra Keen. Review by	693
	2051
Methods of Electing Officers. Reports of Committee Studying. By W. A. Berger.	TOF
The Association Round Table Meyer, Robert F., and Koester, Edward A. Developments in North Mid-	195
Continent in 1939	994
archigan, buckeye Off Field, Gladwin County, by Carl C. Addison	1950

2210

744

006

476

2182

2195

1150

388

, Developments in, during 1939. By R. B. Newcombe 074 Southwestern, Isopachous Studies of Ellsworth to Traverse Limestone Section of. By Margaret Stearns Bishop 2150 Microscopic Examination of Permian Crude Oils. Geological Note by Ronald K. 2181 DeFord Mid-Continent, North, Developments in, in 1939. By Edward A. Koester and Robert F. Meyer 004 South, Recent Developments in. By Lewis W. MacNaughton 1025 Mid-Continent Region, Washita County, Oklahoma, Deepest Well in. Geological Note by W. Baxter Boyd 735 Midland Basin, Eastern, Texas, Stratigraphy. By Lincoln R. Page and John 52 1370 Mimeographed Publications, Committee on. By L. C. Snider. The Association Round Table 1145

Mineral Resources and Geology of Washington County, Oklahoma. By Malcolm C. Oakes. Review by Joseph L. Borden 2185 Mineralogy and Paleontology Division, Financial Statement, 1939. The Association Round Table 519 Minnesota, East-Central, Pre-Cambrian and Cambrian Relations in. Geological

Note by A. J. Crowley and G. A. Thiel Minutes, Twenty-Fifth Annual Meeting, Stevens Hotel, Chicago, Illinois, April 10-12, 1940. By Ed. W. Owen. The Association Round Table . Miocene Fishes in Well Cores from Torrance in Southern California. Geological

Note by Lore David Miocene Production, Deep, Recently Discovered in the Inglewood Oil Field. By A. F. Woodword. Abstract Miser, Hugh D. Review of Oil Shale and Cannel Coal, by Institute of Petroleum Mississippi, Surface Formations in. Geological Note by Urban B. Hughes,

Robert R. Harbison, et al. 2033 Mississippi Geological Society, Cretaceous Field Trip, May 3, 4, and 5, 1940. Announcement. The Association Round Table 750 December 6-8. By Joseph M. Dawson. Field Trip 2068 Mississippian, Lower (Iowa) Series in Illinois, Subsurface Geology of. By J. Norman Payne 225

Probable Age of Caballos Novaculite, New Mexico. Geological Note 1679 Mississippian Border of Eastern Interior Basin. By J. Marvin Weller and A. H. 765,1133

Models of Kettleman Hills North Dome, California. Geological Note by John H. Maxson Montague County, Texas, Bonita Discovery. Geological Note by J. P. Gill 1838 Rogers Pool. Geological Note by G. C. Clark 1836 Moore, Carl A. Morrow Group of Adair County, Oklahoma 409 Moore, Raymond C. Carboniferous-Permian Boundary 282 Moore, Raymond C., et al. Classification of Permian Rocks 337

Morrow Group of Adair County, Oklahoma. By Carl A. Moore Myers, Thurman H. Deep-Sand Developments in Appalachian Region during 070 Mygdal, Karl A. Developments in North and West-Central Texas, 1939 . 1044

National Oil Scouts and Landmen's Association. Oil and Gas Field Development 1685 in the United States, 1939. Review by G. S. Dillé National Research Council, Report of Representative of the Association on Division of Geology and Geography of. By Frederic H. Lahee. The Association

Round Table 1148 , Report of Representative to. By Frederic H. Lahee. The Association Round Table 938 Neale Field, Beauregard Parish, Louisiana. Geological Note by H. V. Tygrett . 2036 Nedom, Henry Arthur. Memorial by Earl G. Colton . . .

Needham, C. E. Correlation of Pennsylvanian Rocks of New Mexico	173
Nelson, L. A. Paleozoic Stratigraphy of Franklin Mountains, West Texas	157
Nettleton, L. L. Geophysical Prospecting for Oil. Review by Paul Weaver	2186
New Interior Salt Domes, Three, in Northeast Louisiana. Geological Note by	
Max Bornhauser and Lester R. Marshall	483
New Mexico, Correlation of Pennsylvanian Rocks of. By C. E. Needham	173
, Geologic Section from Fisher County through Andrews County, Texas,	-13
to Eddy County. By Robert I. Dickey	37
, Insoluble Residues in the Whitehorse and Salado of. By Ronald K.	31
DeFord. Abstract	1699
	1099
Note by C. L. Baker	1679
South-North Cross Section from Pecos County through Ector County,	10/9
Texas, to Roosevelt County. By William C. Fritz and James FitzGerald, Jr.	7.0
South-North Cross Section from Pecos County through Winkler County,	15
Texas, to Roosevelt County. By E. Hazen Woods	29
Southeastern, and West Texas, Developments in, during 1939. By Dana	
M. Secor, W. C. Fritz, and W. W. West	1033
New Mexico and West Texas, Position of the San Andres Group. By Frank E.	-6
Lewis. Abstract	1699
New Mexico Bureau of Mines and Mineral Resources, November 2-3. Field	-06-
Trips	1863
New Mexico-West Texas Symposium. Part I	1
New Rangia from Upper Miocene of Western Gulf Province. By Julia Gardner	476
New South Wales, Possibilities of Heavy-Mineral Correlation of Some Permian	
Sedimentary Rocks. By Dorothy Carroll	636
, Discussion by H. G. Raggatt and Irene Crespin	1682
New Zone in Cook Mountain Formation, the Crassatella texalla Harris—Turri-	
tella cortezi Bowles Zone. By H. B. Stenzel	1663
Newcombe, R. B. Developments in Michigan during 1939	974
Noble, Earl B. Rio Bravo Oil Field, Kern County, California. Geological Note	1330
Noble County, Oklahoma, Structural History of Billings Field, Interpreted in	
Terms of Isostasy. By Malvin G. Hoffman	2006
North and West-Central Texas, Developments in, 1939. By Karl A. Mygdal .	1044
North America, Geology of. By Many Authors. Review by W. A. Ver Wiebe .	1134
North Mid-Continent, Developments in, in 1939. By Edward A. Koester and	0.
Robert F. Meyer	994
North Texas Geological Society, Field Trip, May 25-26	952
Northeast Louisiana, Three New Interior Salt Domes in. Geological Note by	93-
	483
Max Bornhauser and Lester R. Marshall	
Northeastern Ohio Geological Society, Field Trip	952
Norton, R. W. Interpretation and Application of Electric Logs. Abstract	2194
Notes on Some Foraminifera from Marysville Buttes, California. By M. C.	
Israelsky. Review by Hubert G. Schenck	2051
on the Frio. By M. C. Israelsky. Study Group Reports (Houston Geo-	
logical Society)	376
Novaculite, Caballos, New Mexico, Probable Lower Mississippian Age of.	
Geological Note by C. L. Baker	1679
Nowata, Osage, and Washington Counties, Oklahoma, Results of Recent Field	
Studies in, By Malcolm C. Oakes	716
Nueces County, Texas, Saxet Oil and Gas Field. By J. C. Poole	1805
O. C. Marsh, Pioneer in Paleontology. By Charles Schuchert and Clara M.	
Le Vene. Review by W. H. Twenhofel	1684
Oakes, Malcolm C. Geology and Mineral Resources of Washington County,	
Oklahoma. Review by Joseph L. Borden	2185
Results of Recent Field Studies in Osage, Washington, and Nowata	
Counties, Oklahoma	716
Occupational Survey of Membership. By Henry A. Ley. The Association Round	
Table	194
Oeloe Aer Fault Zone, Sumatra. Geological Note by J. Wyatt Durham	359
Officers of the Association, Past and Present. The Association Round Table	603

222I

, Reports of Committee Studying Methods of Electing. By W. A. Berger. The Association Round Table 195 Ohio, Paleozoic and Pre-Cambrian Rocks of Vance Well, Delaware County. By Wilber Stout and Carl A. Lamey 672 Recent Secondary Recovery of Oil in. Geological Note by E. V. O'Rourke 494 Oil, Geophysical Prospecting for. By L. L. Nettleton. Review by Paul Weaver in Ohio, Recent Secondary Discovery of. Geological Note by R. V. O'Rourke 1865 Oil and Bituminous Coals, Rôle of Carbohydrates in Formation of. By E. Berl Oil and Gas Accumulation, Geochemical Exploration (Soil Analysis) with Some Speculation about the Genesis of. By Eugene McDermott 859 Oil and Gas Accumulations, Relationship of Unconformities to. By Frank J. Gardner. Student Awards 2022 Oil and Gas Field Development in the United States, 1939. By the National Oil Scouts and Landmen's Association. Review by G. S. Dillé.
Oil Business, This Fascinating. By Max W. Ball. Review by W. V. Howard 1685 883 Oil Field, Buckeye, Gladwin County, Michigan. By Carl C. Addison . . . Oil-Field Waters of Wyoming and Their Relation to Geological Formations. By 1950 . G. Crawford 1214 Oil Industry, Future Position of Petroleum Geology in. By E. DeGolyer . 1380 , Rôle of Foraminifera in. By Herschel L. Driver. Abstract 2194 Oil Reserves in South Texas, Developments and Status of, 1939. By L. B. 1060 388 Oil Shale and Cannel Coal. By Institute of Petroleum. Review by Hugh D. Miser Oil Wells, Experimental, Water Cones and Water Sheaths in. By F. B. Plummer and H. K. Livingston 2163 Oklahoma, Deepest Well in Mid-Continent Region, Washita County. Geological Note by W. Baxter Boyd 735 Developments in, during 1939. By E. F. Shea IOII —, Geology and Mineral Resources of Washington County. By Malcolm C. Oakes, Review by Joseph L. Borden 2185 Morrow Group of Adair County. By Carl A. Moore 400 Ramsey Oil Pool, Payne County, By V. L. Frost 1005 Results of Recent Field Studies in Osage, Washington, and Nowata Counties. By Malcolm C. Oakes 716 Southeastern, Structural Interpretation of Recent Gravity Observations in. By Thomas A. Hendricks 2143 —, Structural History of Billings Field, Noble County, Interpreted in Terms of Isostasy, By Malvin G. Hoffman 2006 Older Rocks of Van Horn Region, Texas. By Philip B. King 143 Olson, W. S. Seismic Velocity Variations in the San Joaquin Valley. Abstract. "Omphalotrochus Beds of U.S.S.R., Are They Permian?" By J. Brookes Knight, 2195 et al. Discussion 1128 Oppenheim, Victor. Jurassic-Cretaceous (Girón) Beds in Colombia and Venezuela 1611 Ordovician, Lower, Sandy Zones ("St. Peter") in Middle Tennessee. By Kendall E. Born 1641 Ordovician Development, Apco Structure, Pecos County, Texas. Geological Note by Taylor Cole 478 Organic Constituents of Sediments, Inferences about Origin of Oil as Indicated by Composition of. By Parker D. Trask. Review by Roy Ginter . . . 506 Origin of Oil as Indicated by Composition of Organic Constituents of Sediments, Inferences about. By Parker D. Trask. Review by Roy Ginter 506 Origin and Accumulation of Petroleum, Fourth Annual Report of Study of Time of. By F. M. Van Tuyl and Ben H. Parker
O'Rourke, E. V. Recent Secondary Recovery of Oil in Ohio. Geological Note 020 494 Osage, Washington, and Nowata Counties, Oklahoma, Results of Recent Field Studies in. By Malcolm C. Oakes 716 Our Experience with the Underground Storage of Gas (The Manufacturers Light and He t Company, Pittsburgh, Pennsylvania). Geological Note by E. O.

Our Experience with the Underground Storage of Gas (The Peoples Natural	
Gas Company). Geological Note by F. H. Finn	1482
——. Memorials	1160
Minutes, Twenty-Fifth Annual Meeting, Stevens Hotel, Chicago, Illi-	
nois, April 10–12, 1940. The Association Round Table	906
Report of Secretary-Treasurer	923
Report of Secretary-Treasurer	912
Pacific Section Seventeenth Annual Meeting, November 7-8, 1940. By E. J.	
Bartosh. The Association Round Table	2192
Abstracts. The Association Round Table	2192
Page, Lincoln R., and Adams, John Emery. Stratigraphy, Eastern Midland	1779
Basin, Texas	52
Page Field in Schleicher County, Texas. By Roscoe Simpson. Abstract	1698
Paiva, Glycon de, Reyes, Jorges Muñoz, and Mariaca, Guillermo. Geology of	
Sub-Andean Belt of Bolivia. Review by John L. Rich	1686
Paleobotany, Textbook of. By William C. Darrah. Review by Roland W. Brown	750
Paleoecological Factors Controlling Distribution of Cretaceous Ammonoids in Texas Area. By Gayle Scott . ,	7764
Paleogene of Barbados and Its Bearing on History and Structure of Antillean-	1164
Caribbean Region. By Alfred Senn	1548
Paleontologists and Mineralogists, Society of Economic. Technical Program,	34
April 11. The Association Round Table	902
Paleontology, Applied. By Hubert G. Schenck	1752
O. C. Marsh, Pioneer in. By Charles Schuchert and Clara M. LeVene.	-60.
Review by W. H. Twenhofel	1684
Schenck	2049
Paleontology and Mineralogy Division, Financial Statement, 1939. The Asso-	2049
ciation Round Table	519
Paleozoic and Pre-Cambrian Rocks of Vance Well, Delaware County, Ohio.	
By Wilber Stout and Carl A. Lamey	672
Paleozoic Limestone of Turner Valley, Alberta, Canada. By W. D. C. Mackenzie Paleozoic Section, Upper, of Chinati Mountains, Presidio County, Texas. By	1620
John W. Skinner	180
Paleozoic Stratigraphy of Franklin Mountains, West Texas. By L. A. Nelson .	157
Paloma Oil Field, Kern County, California. Geological Note by R. W. Clark .	742
Parker, Ben H., and Van Tuyl, F. M. Fourth Annual Report of Study of Time of	
Origin and Accumulation of Petroleum	929
Partnership between Geology and Geophysics in Prospecting for Oil. By E. A.	****
Eckhardt Past and Present Officers of the Association. The Association Round Table	603
Payne, J. Norman. Subsurface Geology of Iowa (Lower Mississippian) Series in	003
Illinois	225
Payne County, Oklahoma, Ramsey Oil Pool. By V. L. Frost	1995
Pecos County, Texas, Ordovician Development, Apco Structure. Geological	-
Note by Taylor Cole	478
through Ector County, Texas, South-North Cross Section from, to	
Roosevelt County, New Mexico. By William C. Fritz and James Fitz- Gerald, Ir.	15
through Winkler County, Texas, South-North Cross Section from, to	-3
Roosevelt County, New Mexico. By E. Hazen Woods	29
Pennsylvanian Rocks of New Mexico, Correlation of. By C. E. Needham	173
Peoples Natural Gas Company, The, Our Experience with Underground Storage	-
of Gas. Geological Note by F. H. Finn	1482
Percentage Method of Stratigraphic Dating. By A. Myra Keen. Review by	2057
Hubert G. Schenck Permeability and Porosity, Relative, of Producing Formations of Hugoton	2051
Field, Kansas, as Indicated by Gas Withdrawals and Pressure Decline. By	
Glenn G. Bartle and Rufus M. Smith	1798

Permian, Association Subcommittee on. Classification of Permian Rocks, by	
C. W. Tomlinson et al.	337
—— in Parts of Rocky Mountain and Colorado Plateau Regions. By Arthur A. Baker and James Steele Williams	617
The Type: Its Classification and Correlation. By Carl O. Dunbar	237
Permian? Are the "Omphalotrochus Beds" of U.S.S.R. By J. Brookes Knight,	-31
et al. Discussion	1128
Permian-Carboniferous Boundary. By Raymond C. Moore	282
Permian Conference. By Ronald K. DeFord. Research Notes	604
Permian Crude Oils, Microscopic Examination of. Geological Note by Ronald	
K. DeFord	2181
Permian Rocks, Classification of. By C. W. Tomlinson et al	337
Permian Sedimentary Rocks, New South Wales, Possibilities of Heavy-Mineral	636
Correlation of Some. By Dorothy Carroll	1682
Petroleum, Geochemical Prospecting for. By Esme Eugene Rosaire	1400
, Radioactivity of Sedimentary Rocks and Associated. By K. G. Bell,	-400
Clark, Goodman, and W. L. Whitehead	1529
, Source Rocks of-A Symposium of Opinion. Discussion by Ruthvin W.	
Pike et al	496
Petroleum Development and Technology, 1940. By A. I. M. E. Petroleum	
Division. Review by Paul D. Torrey	1842
Petroleum Engineering as an Aid in Exploration Geology. By. C. V. Millikan	1370
Petroleum Exploration and Production, Chemical Engineering in. By P. E. Fitzgerald	1361
Petroleum Geology. By A. I. Levorsen	1355
Future Position of, in the Oil Industry. By E. DeGolyer	1389
in California, Twenty Years of. By Roy M. Barnes	1705
, Where Will Young Graduates in, Acquire Field Experience? By Fred-	
eric H. Lahee	1386
— Discussion by David A. Dunn	2047
Petroleum Geophysics, Practical, Lecture Notes on. By Garrett Kemp. Review	
by Michel T. Halbouty	1339
S. A. Lynch. Research Notes	604
——, Economic and Statistical Aspects of. By R. J. Gonzalez et al. Study	004
Group Reports (Houston Geological Society)	363
——, Geology in. By Wallace E. Pratt	1200
Petrology of Whittier Conglomerates, Southern California. By George J. Belle-	
min	649
Photographs of the Sacramento Mountains. By Cary P. Butcher	1699
Picado T., C. Serpientes Venenosas de Costa Rica (Central American Snakes).	.0.
Review by William W. Porter II  Pike, Ruthvin W., et al. Source Rocks of Petroleum—A Symposium of Opinion.	383
Discussion	496
Pioneer in Paleontology, O. C. Marsh. By Charles Schuchert and Clara M.	490
LeVene. Review by W. H. Twenhofel	1684
Pirson, Sylvain J. Critical Survey of Recent Developments in Geochemical Pros-	
pecting	1464
Pittsburg Field, Camp County, Texas. Geological Note by H. C. Vanderpool	2032
Plummer, F. B., and Livingston, H. K. Water Cones and Water Sheaths in	
Experimental Oil Wells	2163 1805
Porosity and Permeability, Relative, of Producing Formations of Hugoton Field,	1005
Kansas, as Indicated by Gas Withdrawals and Pressure Decline. By Glenn	
G. Bartle and Rufus M. Smith	1798
Porter II, William W. Review of Serpientes Venenosas de Costa Rica (Central	-,,
American Snakes), by C. Picado T.	383
Position of the San Andres Group, West Texas and New Mexico. By Frank E.	
Lewis, Abstract	1699
Possibilities of Heavy-Mineral Correlation of Some Permian Sedimentary Rocks,	606
New South Wales. By Dorothy Carroll	636 1682
— Discussion by H. G. Raggatt and Irene Crespin	1002

1	
Powers, Elliot H. Sand Hills Area, Crane County, Texas	119
	1339
Note by A. J. Crowley and G. A. Thiel	744
By Wilber Stout and Carl A. Lamey	672
	2010
President, Report of. By Henry A. Ley	907
Presidio County, Texas, Upper Paleozoic Section of Chinati Mountains of. By John W. Skinner	180
Pressure Decline and Gas Withdrawals, Relative Porosity and Permeability of Producing Formations of Hugoton Field, Kansas, as Indicated by. By	
Price, Paul H., and Woodward, Herbert P. Résumé of the Devonian System of	1798
West Virginia	1983
Probable Lower Mississippian Age of Caballos Novaculite, New Mexico. Geologi-	505
cal Note by C. L. Båker .  Producing Formations of Hugoton Field, Kansas, Relative Porosity and Permeability of, as Indicated by Gas Withdrawals and Pressure Decline. By	1679
Glenn G. Bartle and Rufus M. Smith	1798
	1361
Prospecting for Petroleum, Geochemical. By Esme Eugene Rosaire	1400
Prout, Franklin S. Memorial by W. L. Walker	944
Publication, Report of Committee for. By Robert E. Rettger Purzer, Joseph, and Weeks, Warren B. Developments in Southern Arkansas	936
and Northern Louisiana during 1939	1092
Pyle, Howard C., Dodge, John F., and Trostel, Everett G. The Estimation by Volumetric Methods of Recoverable Oil and Gas from Sands. Abstract .	2194
Quantitative Introduction to Gravity Prospecting. By Frederic Romberg.	
Abstract	2193
Radioactivity of Sedimentary Rocks and Associated Petroleum. By K. G. Bell, Clark Goodman, and W. L. Whitehead	1520
Raggatt, H. G., and Crespin, Irene. Discussion of Possibilities of Heavy-Mineral Correlation of Some Permian Sedimentary Rocks, New South Wales, by	
	1682
	1995
Rangia, New, from Upper Miocene of Western Gulf Province. By Julia Gardner	476
	1025
Recent Publications . 189,393,506,753,884,1135,1339,1500,1687,1844,2052,	2189
Recent Publications . 189,393,506,753,884,1135,1339,1500,1687,1844,2052. Recent Secondary Recovery of Oil in Ohio. Geological Note by E. V. O'Rourke Recent Shoreline Process, Brazoria County, Texas. Geological Note by William	494
H. Curry . Recently Discovered Deep Miocene Production in the Inglewood Oil Field. By	731
A. F. Woodword. Abstract.	2195
Recoverable Oil and Gas from Sands, The Estimation by Volumetric Methods	2194
Recovery of Oil in Ohio, Recent Secondary. Geological Note by E. V. O'Rourke	494
Reed, Ralph Daniel. Memorial by W. E. Wrather	1152
Relationship of Unconformities to Oil and Gas Accumulations. By Frank J. Gardner. Student Awards	2022
Relative Porosity and Permeability of Producing Formations of Hugoton Field, Kansas, as Indicated by Gas Withdrawals and Pressure Decline. By Glenn	_024
G. Bartle and Rufus M. Smith	1798
Report, Fourth Annual, of Study of Time of Origin and Accumulation of Petro-	1790
	020
leum. By F. M. Van Tuyl and Ben H. Parker	929
(Minutes) of Business Committee. By Ed. W. Owen	923
of Chairman of Research Committee, By A. I. Levorsen	027

2225

701

1400

1434

496

of Committee for Publication. By Robert E. Rettger. 936 of Committee on Applications of Geology, Eighth Annual. By C. E. of Committee on Geologic Names and Correlations. By John G. Bartram 026 of Committee on Sedimentation, 1938-1939. By Parker D. Trask et al. Review by E. W. Galliher 386 of Constitutional Committee. By William B. Heroy 023 of Editor. By W. A. Ver Wiebe . QIQ of President. By Henry A. Ley 007 of Representative of the Association on Division of Geology and Geography of National Research Council. By Frederic H. Lahee. The Association Round Table of Representative to National Research Council. By Frederic H. Lahee . 938,1507 of Resolutions Committee. By Carleton D. Speed, Jr. 040 of Secretary-Treasurer. By Ed. W. Owen 012 Reports of Committee Studying Methods of Electing Officers. By W. A. Berger. The Association Round Table Representative of the Association on Division of Geology and Geography of National Research Council, Report of. By Frederic H. Lahee. The Association Round Table 1148 Research Committee, Report of Chairman of. By A. I. Levorsen Research Committee Project of Tulsa Geological Society: Geologic Relationships of Crude Oils. By N. W. Bass . 030 . . . . . . . 401,604 Research Notes Resolutions Committee, Report of. By Carleton D. Speed, Jr.
Response to Address of Welcome at the Twenty-Fifth Annual Meeting of the 940 Association. By Henry A. Lev Results of Recent Field Studies in Osage, Washington, and Nowata Counties, Oklahoma. By Malcolm C. Oakes 716 Résumé of the Devonian System of West Virginia. By Paul H. Price and Herbert 1983 P. Woodward Rettger, Robert E. Report of Committee for Publication . Review of Developments in 1939, Gulf Coast of Upper Texas and Louisiana. By O. L. Brace Reviews and New Publications Sub-Andean Belt of Bolivia. Review by John L. Rich.

Rice, C. M. Dictionary of Geological Terms. Review by John T. Rouse
Rich, John L. Review of Geology of Sub-Andean Belt of Bolivia, by Glycon de
Paiva, Jorge Muñoz Reyes, and Guillermo Mariaca
Rio Bravo Oil Field, Kern County, California. Geological Note by Earl B. Noble 1686 1400 T686 Roberts, Jr., Charles Vaughn. Student Awards
Rocks, Handbook of. By J. F. Kemp. Review by W. C. Krumbein
Rocky Mountain and Colorado Plateau Regions, Permian in Parts of. By Arthur 1498 A. Baker and James Steele Williams 617 .1100,1347 1865 2194 of Foraminifera in the Oil Industry. By Herschel L. Driver. Abstract Romberg, Frederic. Quantitative Introduction to Gravity Prospecting. Abstract Roosevelt County, New Mexico, South-North Cross Section from Pecos County through Ector County, Texas, to. By William C. Fritz and James Fitz-Gerald, Jr. 15 , South-North Cross Section from Pecos County through Winkler County,

Roper, Frank C., and Todd, John D. Sparta-Wilcox Trend, Texas and Louisiana

Rosaire, Esme Eugene. Geochemical Prospecting for Petroleum Rosaire, Esme Eugene, McDermott, Eugene, Fash, R. H., et al. Discussion of

Ross, Clarence S., et al. Source Rocks of Petroleum-A Symposium of Opinion.

Texas, to. By E. Hazen Woods

Geochemical Exploration (Soil Analysis)

Rouse, John T. Review of Dictionary of Geological Terms, by C. M. Rice Ruedemann, Rudolf, and Balk, Robert. Editors of Geology of North America,	1499
by Many Authors. Review by W. A. Ver Wiebe	1134
Rutledge, Richard B. Memorial of William Arthur Tarr	200
St. Peter Sandstone, Lower Ordovician Sandy Zones in Middle Tennessee. By Kendall E. Born	-6
	1641
Salt Domes, Three New Interior, in Northeast Louisiana. Geological Note by Max Bornhauser and Lester R. Marshall	6,887 483
San Andres Group, West Texas and New Mexico, Position of. By Frank E.	403
Lewis. Abstract	1699
Boris Laiming	1923
	2195
, Some Foraminiferal Correlations in the Eocene of. By Boris Laiming.  Review by Hubert G. Schenck	
Southern, The Stevens Sand. By Rollin Eckis. Abstract	2049
Sand Hills Area, Crane County, Texas. By Elliot H. Powers	2195
Sandy Zones ("St. Peter"), Lower Ordovician, in Middle Tennessee. By Kendall	119
E. Born Sargent, M. C., and Fleming, Richard H. The Accumulation of Marine Diato-	1641
maceous Sediments. Abstract	2194
Saxet Oil and Gas Field, Nueces County, Texas. By J. C. Poole Scenery of Florida. By C. Wythe Cooke. Review by Robert B. Campbell	1805
	504
Schenck, Hubert G. Applied Paleontology	1752
<ul> <li>Review of Foraminifera in Zonal Paleontology, by Bradford C. Adams</li> <li>Review of Notes on Some Foraminifera from Marysville Buttes, Cali-</li> </ul>	2049
fornia, by M. C. Isrealksy	2051
———. Review of Some Foraminiferal Correlations in the Eocene of San Joaquin	
Valley, California, by Boris Laiming	2049
———. Review of The Percentage Method of Stratigraphic Dating, by A. Myra	
Keen	2051
Schenck, Hubert G., and Keen, A Myra. California Fossils for the Field Geolo-	
gist. Review by Robert T. White	2186
Schillhahn, E. O. Our Experience with the Underground Storage of Gas (The Manufacturers Light and Heat Company, Pittsburgh, Pennsylvania). Geo-	
logical Note	1478
Schuchert, Charles, and LeVene, Clara M. O. C. Marsh, Pioneer in Paleontology.	
Review by W. H. Twenhofel	1684
Scott, Gayle. Paleoecological Factors Controlling Distribution of Cretaceous	
Ammonoids in Texas Area	1164
Scott, Walter Winthrop. Memorial by D. P. Carlton	944
Secondary Recovery of Oil in Ohio, Recent. Geological Note by E. V. O'Rourke Secor, Dana M., Fritz, W. C., and West, W. W. Developments in West Texas and	494
Southeastern New Mexico during 1939	1033
Secretary-Treasurer, Report of. By Ed. W. Owen	912
Section Encountered in the Krupp Wells, Hudspeth County, Texas. By R. L.	,
	1690
Section, Geologic, from Fisher County through Andrews County, Texas, to	- 99
Eddy County, New Mexico. By Robert I. Dickey	37
Sedimentary Rocks, Permian, New South Wales, Possibilities of Heavy-Mineral	31
Correlation of Some. By Dorothy Carroll	636
	1682
Sedimentary Rocks and Associated Petroleum, Radioactivity of. By K. G. Bell,	2002
Clark Goodman, and W. L. Whitehead	1529
Sedimentation. By Miehel T. Halbouty et al. Study Group Reports (Houston	
Geological Society)	374
Principles of By W. H. Twenhofel. Review by Parker D. Trask	505
Report of the Committee on, 1938-1939. By Parker D. Trask et al.	06
Review by E. W. Galliher	386
Sediments, Inferences about Origin of Oil as Indicated by Composition of Or-	
ganic Constituents of. By Parker D. Trask. Review by Roy Ginter	506

2227

435

2105

Seismic Velocity Variations in the San Joaquin Valley. By W. S. Olson. Abstract Sejita Structure, Duval County, Texas. Geological Note by Carleton D. Speed, 482 Senn, Alfred. Paleogene of Barbados and Its Bearing on History and Structure 1548 of Antillean-Caribbean Region Serpientes Venenosas de Costa Rica (Central American Snakes). By C. Picado T. Review by William W. Porter II 383 Shea, E. F. Developments in Oklahoma during 1939 IOII Shepherd, E. S., et al. Source Rocks of Petroleum-A Symposium of Opinion. Discussion 496 Shoreline Process, Recent, Brazoria Country, Texas. Geological Note by William H. Curry 731 Significant Developments in California, 1939. By E. R. Atwill Simpson, Roscoe. The Page Field in Schleicher County, Texas. Abstract III2 1698 Skinner, John W. Upper Paleozoic Section of Chinati Mountains, Presidio County, Texas 180 Smith, Harold M. Discussion of Geochemical Exploration (Soil Analysis) 1453 Smith, Rufus M., and Bartle, Glenn G. Relative Porosity and Permeability of Producing Formations of Hugoton Field, Kansas, as Indicated by Gas Withdrawals and Pressure Decline 1708 Snider, L. C. Committee Appointments. The Association Round Table 1145 Committee on Mimeographed Publications. The Association Round Table 1145 Society of Economic Paleontologists and Mineralogists. Executive Committee. The Association Round Table , Fourteenth Annual Meeting of, Chicago, April 11, 1940. Announcement. The Association Round Table 400 Society of Exploration Geophysicists, Eleventh Annual Meeting of, Chicago, April 9, 10, and 11, 1940. Announcement. The Association Round Table . 400 Executive Committee. The Association Round Table 894 ——, Technical Program, April o. The Association Round Table . . . . . . Soil Analyses in Locating Oil Pools, Theoretical Consideration of. By R. H. Fash 905 1444 Soil Analysis (Geochemical Exploration). Discussion of. By E. E. Rosaire, Eugene McDermott, R. H. Fash et al. 1434 (Geochemical Exploration) with Some Speculation About the Genesis of Oil and Gas Accumulation. By Eugene McDermott 859 Some Foraminiferal Correlations in the Eocene of the San Joaquin Valley, California. By Boris Laiming. Review by Hubert G. Schenck 2049 Source of Hydrogen, Suggested Natural: Hydrogenation of Oil. Geological Note by E. T. Heck 1475 Source Rocks of Petroleum-A Symposium of Opinion. Discussion by Ruthvin W. Pike et al. 406 South Mid-Continent, Recent Developments in. By Lewis W. MacNaughton . 1025 South-North Cross Section from Pecos County through Ector County, Texas, to Roosevelt County, New Mexico. By William C. Fritz and James Fitz-15 from Pecos County through Winkler County, Texas, to Roosevelt County, New Mexico. By E. Hazen Woods 20 South Texas, Developments and Status of Oil Reserves in, 1939. By L. B. Her-1060 South Texas Geological Society. Frank J. Gardner. Student Awards 202I South Texas Geological Society Annual Meeting, October 18 and 19, Austin, 2066 Announcement, Field Trips 1864 South Trinidad, B. W. I., Los Bajos Fault of. By C. C. Wilson . 2102 Southeastern Oklahoma, Structural Interpretation of Recent Gravity Observations in. By Thomas A. Hendricks 2143 Southern California, Miocene Fishes in Well Cores from Torrance in. Geological Note by Lore David 2182 -, Petrology of Whittier Conglomerates. By George J. Bellemin . 640

Southern Louisiana, Subsurface Miocene of. By Alva C. Ellisor .

Southern San Joaquin Valley, California, The Stevens Sand. By Rollin Eckis.

Southwestern Michigan. Isopachous Studies of Ellsworth to Traverse Limestone	
Section of. By Margaret Stearns Bishop	2150
Sparta-Wilcox Trend, Texas and Louisiana. By John D. Todd and Frank C. Roper	701
Special Committees. The Association Round Table	1147
Special Publications, Information Regarding. The Association Round Table .	608
Speed, Jr., Carleton D. Report of Resolutions Committee	940
— Tejita Structure, Duval Country, Texas. Geological Note	482
Stenzel, H. B. New Zone in Cook Mountain Formation, the Crassatella texalta	
Harris—Turritella cortezi Bowles Zone	1663
Stevens Sand, Southern San Joaquin Valley, California. By Rollin Eckis. Ab-	
stract	2195
Stonewall County, Texas, Aspermont Pool Discovery. Geological Note by Fred	
M. Haase	1839
Storage of Gas, Underground, Our Experience with (The Manufacturers Light	0,2
and Heat Company, Pittsburgh, Pennsylvania). Geological Note by E. O.	
Schillhahn	1478
(The Peoples Natural Gas Company). Geological Note by F. H. Finn	1482
Stout, Wilber, and Lamey, Carl A., Paleozoic and Pre-Cambrian Rocks of	-4
Vance Well, Delaware County, Ohio	672
Strand Oil Field, Kern County, California. Geological Note by F. A. Menken	1333
Stratigraphic Dating, Percentage Method of. By A. Myra Keen. Review by	*333
Hubert G. Schenck	2051
Stratigraphic Nomenclature, Technique of. Discussion by C. W. Tomlinson .	2038
Stratigraphy, Eastern Midland Basin, Texas. By Lincoln R. Page and John	2030
Emery Adams	
	52
of Easternmost Ventura Basin, California. By Richard H. Jahns. Re-	-0
view by William S. W. Kew	1841
Structural Development, Yates Area, Texas. By John Emery Adams Structural History of Billings Field, Noble County, Oklahoma, Interpreted in	134
Structural History of Billings Field, Noble County, Oklahoma, Interpreted in	
Terms of Isostasy. By Malvin G. Hoffman	2006
Structural Interpretation of Recent Gravity Observations in Southeastern Okla-	
homa. By Thomas A. Hendricks	2143
Structure and History of Antillean-Caribbean Region, Paleogene of Barbados	
and Its Bearing on. By Alfred Senn	1548
Student Awards	,2019
By Henry A. Ley. The Association Round Table	194
Preface by W. A. Ver Wiebe.	2019
Student Merit Awards, West Texas Geological Society. The Association Round	
Table	1143
Study of Surface Stratigraphy of Ellenburger Formation of Texas. By Leo	
Hendricks. Abstract	1698
Study Group Reports	363
Sub-Andean Belt of Bolivia, Geology of. By Glycon de Paiva, Jorge Muñoz	
Reyes, and Guillermo Mariaca. Review by John L. Rich	1686
Sub-Committee on Carboniferous. By John G. Bartram. The Association Round	
Table	1346
Subsurface Geology of Chester Series in Illinois. By L. E. Workman	209
of Iowa (Lower Mississippian) Series in Illinois. By J. Norman Payne	225
Subsurface Miocene of Southern Louisiana. By Alva C. Ellisor	435
Sumatra, Oeloe Aer Fault Zone. Geological Note by J. Wyatt Durham	359
Supplementary Membership List, September 1, 1940. The Association Round	007
Table	1694
Surface Formations in Mississippi. Geological Note by Urban B. Hughes,	, ,
	2033
Survey of Geological Curricula in Universities and Colleges in Unted States.	- 00
By the Executive Committee. The Association Round Table	602
Sutton, A. H., and Weller, J. Marvin. Mississippian Border of Eastern Interior	
	1133
Symposium of Opinion—Source Rocks of Petroleum. Discussion by Ruthvin W.	33
Pike et al.	496
	1400
	1355
	-333
TI VUL A VAND LIVIT MINAMOU, A MILLA	-

2220

701

Tarr, William Arthur. Memorial by Richard B. Rutledge 200 Technical Program, Twenty-Fifth Annual Meeting. General Session. The Association Round Table 897 Technique of Stratigraphic Nomenclature. Discussion by C. W. Tomlinson 2038 Technology and Petroleum Development, 1940. By A. I. M. E. Petroleum Division. Review by Paul D. Torrey 1842 Temblor Range, California, Thrust Faulting and Coarse Clastics in. By F. S. Hudson and G. H. White, Abstract 2103 Tennessee, Middle, Lower Ordovician Sandy Zones ("St. Peter") in. By Kendall 1641 Texas, Aspermont Pool Discovery, Stonewall County, Geological Note by Fred M. Haase 1830 , Bonita Discovery, Montague County. Geological Note by J. P. Gill 1838 Coastal, and Louisiana, Downdip Wilcox (Eocene) of. By J. A. Culbertson 1891 , Discovery of Oil in Ellenburger Formation, K. M. A. Oil Field, Wichita County. Geological Note by Vernon E. Autry 1494 , East, Developments in, during 1939. By H. J. McLellan and E. A. Wendlandt 1062 Geologic Section from Fisher County through Andrews County, to Eddy County, New Mexico. By Robert I. Dickey 37 Gulf Coast of, Deposition of Lissie and Beaumont Formations of. By R. J. Metcalf 693 Henderson Pool Discovery, Clay County, Geological Note by George P. Hardison 1495 , Hoffman Field, Duval County. By Harvey Whitaker Jones County Discovery. Geological Note by Orion A. Daniel and J. B. 2180 Lovejoy North and West-Central, Developments in, 1939. By Karl A. Mygdal 1044 North-Central, Geology of. By M. G. Cheney 65 Older Rocks of Van Horn Region. By Philip B. King 143 Ordovician Development, Apco Structure, Pecos County. Geological Note by Taylor Cole 478 Pittsburg Field, Camp County. Geological Note by H. C. Vanderpool 2032 Recent Shoreline Process, Brazoria County. Geological Note by William 731 Rogers Pool, Montague County. Geological Note by G. C. Clark . 1836 Sand Hills Area, Crane County. By Elliot H. Powers IIQ Saxet Oil and Gas Field, Nueces County. By J. C. Poole . 1805 Section Encountered in the Krupp Wells, Hudspeth County. By R. L. Canon. Abstract 1699 South, Developments and Status of Oil Reserves in, 1939. By L. B. 1000 —, South-North Cross Section from Pecos County through Ector County, to Roosevelt County, New Mexico. By William C. Fritz and James Fitz-Gerald, Ir. 15 South-North Cross Section from Pecos County through Winkler County, to Roosevelt County, New Mexico. By E. Hazen Woods 20 -, Stratigraphy, Eastern Midland Basin. By Lincoln R. Page and John 52 -, Structural Development, Yates Area. By John Emery Adams 134 , Tejita Structure, Duval County. Geological Note by Carleton D. Speed, 482 Todd Ranch Discovery, Crockett County. Geological Note by D. D. Christner 1126 , Upper, and Louisiana, Review of Developments in Gulf Coast of, in 1939. By O. L. Brace. 1070 Upper Paleozoic Section of Chinati Mountains, Presidio County. By John W. Skinner 180 West, and Southeastern New Mexico, Developments in, during 1939. By Dana M. Secor, W. C. Fritz, and W. W. West 1033

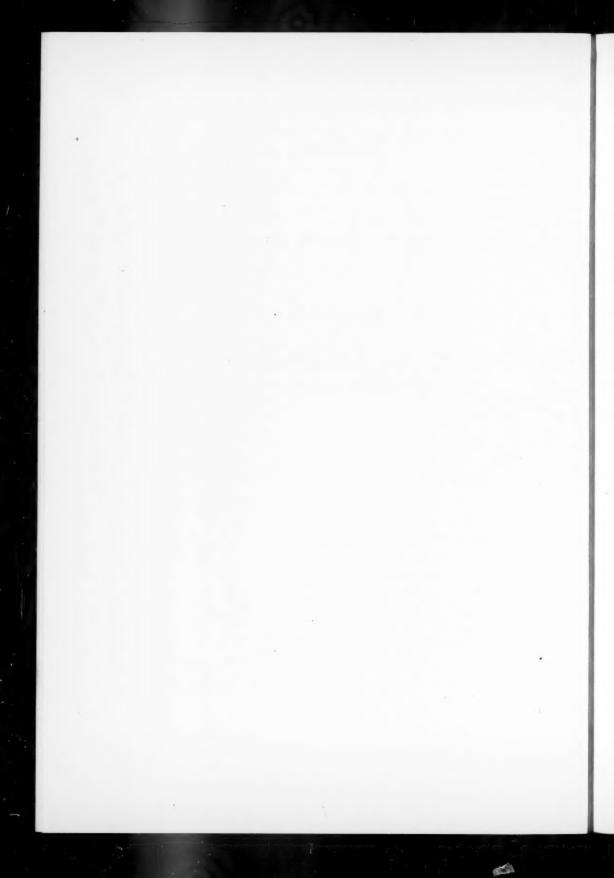
Texas and Louisiana, Sparta-Wilcox Trend. By John D. Todd and Frank C.

Texas and Louisiana Gulf Coast Sediments, Heavy-Mineral Zones of. By Wil-	
liam M. Cogen Texas Area, Paleoecological Factors Controlling Distribution of Cretaceous	2069
Ammonoids in. By Gayle Scott	1164
Textbook of Paleobotany. By William C. Darrah. Review by Roland W. Brown	750
Theoretical Consideration of the Basis for the Use of Soil Analyses in Locating Oil Pools. By R. H. Fash	1444
Thiel, G.A., and Crowley, A. J. Pre-Cambrian and Cambrian Relations in East-	-444
Central Minnesota. Geological Note	744
This Association. By Henry A. Ley	883
Thomas, George Terrell. West Texas Geological Society. Student Awards	1144
Three New Interior Salt Domes, in Northeast Louisiana. Geological Note by Max Bornhauser and Lester R. Marshall	.0.
Thrust Faulting and Coarse Clastics in Temblor Range, California. By F. S.	483
Hudson and G. H. White. Abstract	2193
Time of Origin and Accumulation of Petroleum, Fourth Annual Report of Study of. By F. M. Van Tuyl and Ben H. Parker	020
Todd, John D., and Roper, Frank C. Sparta-Wilcox Trend, Texas and Louisiana	929 701
Todd Ranch Discovery, Crockett County, Texas. Geological Note by D. D.	
Christner	2038
Tomlinson, C. W. Technique of Stratigraphic Nomenclature. Discussion Tomlinson, C. W., et al. Classification of Permian Rocks	337
Torrance in Southern California, Miocene Fishes in Well Cores from. Geological	
Note by Lore David	2182
A. I. M. E. Petroleum Division	1842
Trade Journals Will Feature A. A. P. G. Chicago Convention. The Association	616
Round Table	010
Geological Note	738
Trask, Parker D. Inferences about Origin of Oil as Indicated by Composition of Organic Constituents of Sediments. Review by Roy Ginter	506
Review of Principles of Sedimentation, by W. H. Twenhofel	505
Trask, Parker D., et al. Report of the Committee on Sedimentation, 1938-1939.	
Review by E. W. Galliher Traverse Limestone Section of Southwestern Michigan, Isopachous Studies of	386
Ellsworth to, By Margaret Stearns Bishop	2150
Trinidad, South, B. W. I., Los Bajos Fault of. By C. C. Wilson	2102
Trostel, Everett G., Dodge, John F., and Pyle, Howard C. The Estimation by Volumetric Methods of Recoverable Oil and Gas from Sands. Abstract	2194
Tulsa Geological Society Research Committee Project: Geologic Relationships of	
Crude Oils. By N. W. Bass Turner Valley, Alberta, Canada, Paleozoic Limestone of. By W. D. C. Mac-	930
kenzie	1620
Turritella cortezi Bowles-Crassatella texalta Harris Zone, New Zone in Cook	
Mountain Formation. By H. B. Stenzel	1663 505
Review of O. C. Marsh, Pioneer in Paleontology, by Charles Schuchert	202
and Clara M. LeVene	1684
Twenty-Fifth Annual Meeting, Chicago, April 10-12, 1940. Announcement. The Association Round Table	. 507
By J. Brian Eby. The Association Round Table	889
, Convention Activities. Announcement. The Association Round Table.	408
of the Association, Address of Welcome. By M. M. Leighton	897
Twenty-Sixth Annual Meeting, Houston, April 2-4, 1941. Announcement. The	
Association Round Table	
Pygrett, H. V. Neale Field, Beauregard Parish, Louisiana	1705 2036
Type Permian: Its Classification and Correlation. By Carl O. Dunbar	237
Unconformities, Relationship of, to Oil and Gas Accumulations. By Frank J.	
	2022

Underground Storage of Gas, Our Experience with (The Manufacturers Light and Heat Company, Pittsburgh, Pennsylvania). Geological Note by E. O.	
Schillhahn	1478
— (The Peoples Natural Gas Company). Geological Note by F. H. Finn . Union County, Iowa, Log of Wildcat Well. Geological Note by W. E. McHugh U.S.S.R., Are the "Omphalotrochus Beds" of the, Permian? By J. Brookes	1482
Knight, et al. Discussion . United States, Oil and Gas Field Development in, 1939. By the National Oil	1128
Scouts and Landmen's Association. Review by G. S. Dillé	1685 476
Upper Paleozoic Section of Chinati Mountains, Presidio County, Texas. By John W. Skinner	180
Van Horn Region, Texas, Older Rocks of. By Philip B. King Van Tuyl, F. M., and Parker, Ben H. Fourth Annual Report of Study of Time	143
of Origin and Accumulation of Petroleum	929
By Wilber Stout and Carl A. Lamey	672
Vanderpool, H. C. Pittsburg Field, Camp County, Texas. Geological Note Velocity Variations, Seismic, in the San Joaquin Valley. By W. S. Olson. Ab-	2032
stract Venezuela and Colombia, Jurassic-Cretaceous (Girón) Beds in. By Victor Oppenheim	2195 1611
Ventura Basin, Easternmost, California, Stratigraphy of, By Richard H. Jahns,	1011
Review by William S. W. Kew	1841
Ver Wiebe, W. A. Preface. Student Awards	2019
Report of Editor	919
— Review of Geology of North America, by Many Authors Volumetric Methods, Estimation by, of Recoverable Oil and Gas from Sands.	1134
By John F. Dodge, Howard C. Pyle, and Everett G. Trostel. Abstract	2194
Walker, W. L. Memorial of Franklin S. Prout	944
Discussion	496
Studies in. By Malcolm C. Oakes .  Washington County, Oklahoma, Geology and Mineral Resources of. By Malcolm	716
C. Oakes. Review by Joseph L. Borden	2185
Note by W. Baxter Boyd	735
and H. K. Livingston	2163
Water Supplies in Traq. By W. A. Macfadyen. Review by Linn M. Farish Waters, Oil-Field, of Wyoming and Their Relation to Geological Formations.	751
By J. G. Crawford	1214
Review of Geophysical Exploration, by C. A. Heiland	2186
Review of Geophysical Prospecting for Oil, by L. L. Nettleton	2186
Weeks, Warren B., and Purzer, Joseph. Developments in Southern Arkansas and	
Northern Louisiana during 1939	1092
Wegmann, C. E., et al. Grönland 1939. Review by Robert Balk. Weiske, F., et al. Estudio sobre condiciones geologicas de la hoya del Rio	882
Magdelena. Discussion	502
Well Cores from Torrance in Southern California, Miocene Fishes in. Geological	9-
Note by Lore David  Weller, J. Marvin, and Sutton, A. H. Mississippian Border of Eastern Interior  Basin  765.	2182
Basin	1062
West, W. W., Secor, Dana M., and Fritz, W. C. Developments in West Texas and Southeastern New Mexico during 1939	
West-Central and North Texas, Developments in, 1939. By Karl A. Mygdal	1033
West Texas, Paleozoic Stratigraphy of Franklin Mountains. By L. A. Nelson.	157
West Texas and New Mexico, Position of San Andres Group. By Frank E.	
Lewis. Abstract	1699

West Texas and Southeastern New Mexico, Developments in, during 1939. By Dana M. Secor, W. C. Fritz, and W. W. West	1033
—, September 28–29. Field Trips	
Association Round Table West Texas Geological Society Student Merit Awards. The Association Round	1698
Table	1143
West Virginia, Résumé of the Devonian System of. By Paul H. Price and Herbert P. Woodward	1983
Western Gulf Province, New Rangia from Upper Miocene of. By Julia Gardner Where Will Young Graduates in Petroleum Geology Acquire Field Experience?	476
By Frederic H. Lahee	1386
Whitaker, Harvey. Hoffman Field, Duval County, Texas White, G. H., and Hudson, F. S. Thrust Faulting and Coarse Clastics in Temblor	2126
Range, California. Abstract White, Robert T. Eocene Yokut Sandstone North of Coalinga, California  Review of California Fossils for the Field Geologist, by Hubert G.	2193 1722
Schenck and A. Myra Keen Whitehead, W. L., Bell, K. G., and Goodman, Clark. Radioactivity of Sedimen-	2186
tary Rocks and Associated Petroleum Whitehorse-San Andres Contact on and Adjacent to Central Basin Platform. By R. T. Cox and N. B. Winter. Abstract	1529
Whitlock, Jr., Robert Alfred. West Texas Geological Society. Student Awards Whittier Conglomerates, Southern California, Petrology of. By George J. Belle-	1144
Wichita County, Texas, Discovery of Oil in Ellenburger Formation, K. M. A.	649
Oil Field. Geological Note by Vernon E. Autry	1494
Wildcat Drilling in 1939. By Frederic H. Lahee Wildcat Well, Union County, Iowa, Log of. Geological Note by W. E. McHugh	953 1495
Williams, James Steele, and Baker, Arthur A. Permian in Parts of Rocky Moun-	617
tain and Colorado Plateau Regions	2102
Wilson, W. B. Memorial of George Charlton Matson . Winchell, A. N., et al. Source Rocks of Petroleum—A Symposium of Opinion. Discussion .	606 406
Winkler County, Texas, South-North Cross Section from Pecos County through, to Roosevelt County, New Mexico. By E. Hazen Woods	20
Winter, N. B., and Cox, R. T. Whitehorse-San Andres Contact on and Adjacent to Central Basin Platform. Abstract	1700
Woods, E. Hazen. South-North Cross Section from Pecos County through Winkler County, Texas, to Roosevelt County, New Mexico	29
Woodward, A. F. Recently Discovered Deep Miocene Production in the Inglewood Oil Field. Abstract	2195
West Virginia	1983
Wrather, W. E. Memorial of Ralph Daniel Reed	209 1152
Wyoming, Oil-Field Waters of, and Their Relation to Geological Formations.  By J. G. Crawford	1214
Yates Area, Texas, Structural Development. By John Emery Adams Yokut Sandstone, Eocene, North of Coalinga, California. By Robert T. White .	134
Young Graduates in Petroleum Geology, Where Should They Acquire Field Experience? Discussion by David A. Dunn	1722
	2047
Zonal Paleontology, Foraminifera in. By Bradford C. Adams. Review by Hubert G. Schenck	2049

# BULLETIN of the AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS



# BULLETIN

of the

# AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

WALTER A. VER WIEBE, Editor GEOLOGICAL DEPARTMENT, UNIVERSITY OF WICHITA, WICHITA, KANSAS

#### ASSOCIATE EDITORS

GENERAL.

APPALACHIANS

K. C. HEALD, Gulf Oil Corporation, Box 1166, Pittsburgh, Pa. HUGH D. MISER, U. S. Geological Survey, Washington, D. C. THERON WASSON, Pure Oil Company, 35 E. Wacker Drive, Chicago, Ill.

North South NORTH CENTRAL STATES JOHN R. REEVES, Penn-York Natural Gas Corporation, Buffalo, N. Y. WILLIAM O. ZIEBOLD, Spartan Gas Company, Charleston, W. Va. R. B. NEWCOMBE, 901 North Otillia SE., Grand Rapids, Mich. ANTHONY FOLGER, Gulf Oil Corporation, Wichita, Kan.

KANSAS OKLAHOMA Western Eastern

ROBERT H. DOTT, Oklahoma Geological Survey, Norman, Okla. SHERWOOD BUCKSTAFF, Shell Oil Company, Inc., Box 1191, Tulsa, Okla,

TEXAS North and Central Northeastern San Antonio Permian Basin GULF COAST

J. B. LOVEJOY, Gulf Oil Corporation, Fort Worth, Tex.
E. A. WENDLANDT, Humble Oil and Refining Company, Tyler, Tex.
HERSCHEL H. COOPER, 1015 Milam Building, San Antonio, Tex.
E. RUSSELL LLOYD, Box 1026, Midland, Tex.
SIDNEY A. JUDSON, Texas Gulf Producing Company, Houston, Tex.
MARCUS A. HANNA, Gulf Oil Corporation, Houston, Tex.
MARCUS A. HANNA, Gulf Oil Corporation, Houston, Tex.
ROY T. HAZZARD, Gulf Refining Company of Lowisiana, Shreveport, La.
A. E. BRAINERD, Continental Oil Company, Denver, Colo.
W. S. W. KEW, Standard Oil Company, Los Angeles, Calif.
W. D. KLEINPELL, Box 1131, Bakersfield, Calif.

ARKANSAS AND NORTH LOUISIANA ROCKY MOUNTAINS CALIFORNIA

FOREIGN Europe MARGARET C. COBB, Room 2703, 120 Broadway, New York, N. Y. W. A. J. M. VAN WATERSCHOOT VAN DER GRACHT, Huize Jachtduin, 36 Eeuwige Laan, Bergen, N. H., Netherlands THEODORE A. LINK, Imperial Oil, Ltd., Calgary, Alberta HOLLIS D. HEDBERG, Mene Grande Oil Co., Apt. 45, Barcelona, Venezuela

Canada South America

# **VOLUME 24** JANUARY-DECEMBER 1940

PART I

**PAGES 1-1156** 

ASSOCIATION HEADOUARTERS **BOX 979, TULSA, OKLAHOMA** 

# THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, INC.

## OFFICERS FOR THE YEAR ENDING APRIL, 1941

L. C. SNIDER, President
New York City
EDGAR W. OWEN, Secretary-Treasurer
San Antonio, Texas

JOHN M. VETTER, Vice-President Houston, Texas WALTER A. VER WIEBE, Editor Wichita, Kansas

(The foregoing officers, together with the Past-President, HENRY A. LEY, San Antonio, Texas, constitute the Executive Committee)

#### DISTRICT REPRESENTATIVES

(Representatives' terms expire immediately after annual meetings of the years shown in parentheses)

Amarillo
C. Don Hughes (1942), Amarillo, Tex.
Appalackians
Paul H. Price (1941), Morgantown, W. Va.
Canada
S. E. Slipper (1941), Calgary, Canada
Capital
L. W. Stephenson (1942), Washington, D. C.
Dallas
W. W. Clawson (1942), Dallas, Tex.
East Oklahoma
N. W. Bass (1941), Tulsa, Okla.
Robert H. Wood (1941), Tulsa, Okla.
T. E. Weirich (1942), Bartlesville, Okla.
Fort Worth
Charles E. Yager (1941), Fort Worth, Tex.
William Norval Ballard (1941), Holland, Mich.
Alfred H. Bell (1941), Urbana, Ill.
Housslon
J. Boyd Best (1944), Houston, Tex.
Lon D. Cartwright, Jr. (1941), Houston, Tex.
R. L. Beckelhymer (1942), Houston, Tex.
New Mexico
Delmar R. Guinn (1941), Hobbs, N. Mex.
New York
W. T. Thom, Jr. (1941), Princeton, N. J.

Pacific Coast
Harold K. Armstrong (1941), Los Angeles, Calif.
Herschel L. Driver (1941), Los Angeles, Calif.
E. C. Edwards (1942), Los Angeles, Calif.
Rocky Mountains
C. E. Dobbin (1941), Denver, Colo.
Streceport
C. L. Moody (1941), Shreveport, La.
South America
Roger H. Sherman (1941), Caripito, Venezuela
Southeast Gulf
James H. McGuirt (1941), University, La.
So. Permian Basin
Ronald K. DeFord (1941), Midland, Tex.
South Texs.
C. C. Miller (1941), Corpus Christi, Tex.
Harry H. Nowlan (1941), San Antonio, Tex.
Tyler
Edward B. Wilson (1941), Tyler, Tex.
West Oklahoma
C. W. Tomlinson (1941), Ardmore, Okla.
Wichita
James I. Daniels (1941), Wichita, Kan.
Wichita Falls
James F. Gibbs (1942), Wichita Falls, Tex.

#### DIVISION REPRESENTATIVES

Paleontology and Mineralogy
Carey Croneis (1941), Chicago, Illinois Henryk B. Stenzel (1941), Austin, Texas

#### OFFICERS FOR THE YEAR ENDING APRIL, 1940

President: HENRY A. LEY Secretary-Treasurer: EDGAR W. OWEN Vice-President: L. MURRAY NEUMANN Editor: WALTER A. VER WIEBE

(The foregoing officers, together with the Past-President, Donald C. Barton, Houston, Texas, constitute the Executive Committee)

COPYRIGHT 1940 BY THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

> PUBLISHED MONTHLY

Composed and Printed by George Banta Publishing Company Menasha, Wisconsin, U.S.A.

# CONTENTS OF VOLUME 24 (1940)

# PART I

# NUMBER 1 (JANUARY)

West Texas-New Mexico Symposium, Part I	
Editorial Introduction, Ronald K. DeFord and E. Russell Lloyd South-North Cross Section from Pecos County through Ector County, Texas, to Roosevelt County, New Mexico, William C. Fritz and	I
James Fitz Gerald, Jr	15
Woods	29
to Eddy County, New Mexico, Robert I. Dickey Stratigraphy, Eastern Midland Basin, Texas, Lincoln R. Page and John	37
Emery Adams	52
Geology of North-Central Texas, M. G. Cheney	65
Sand Hills Area, Crane County, Texas, Elliot H. Powers	119
Structural Development, Yates Area, Texas, John Emery Adams .	134
Older Rocks of Van Horn Region, Texas, Philip B. King	143
Paleozoic Stratigraphy of Franklin Mountains, West Texas, L. A.	
Nelson	157
Nelson	. 173
Texas, John W. Skinner	180
REVIEWS AND NEW PUBLICATIONS	189
THE ASSOCIATION ROUND TABLE	191
Memorial	
William Arthur Tarr, Richard B. Rutledge	200
At Home and Abroad	202
NUMBER 2 (FEBRUARY)	
Subsurface Geology of Chester Series in Illinois, L. E. Workman. Subsurface Geology of Iowa (Lower Mississippian) Series in Illinois,	209
J. Norman Payne	225
The Type Permian: Its Classification and Correlation, Carl O. Dunbar	237
Carboniferous-Permian Boundary, Raymond C. Moore	282
Classification of Permian Rocks, C. W. Tomlinson et al	337
Geologocal Notes	
Oeloe Aer Fault Zone, Sumatra, J. Wyatt Durham	359
STUDY GROUP REPORTS (HOUSTON GEOLOGICAL SOCIETY)	
Economic and Statistical Aspects of the Petroleum Industry,	
R. J. Gonzalez et al	363
Geophysical Interpretation, M. H. Billings et al	372
Sedimentation, Michel T. Halbouty et al	374
Notes on the Frio M C Israelshy	276

REVIEWS AND NEW PUBLICATIONS	383
D 37	396
AT HOME AND ABROAD	401
AT HOME AND ABROAD	403
NUMBER 3 (MARCH)	
Morrow Group of Adair County, Oklahoma, Carl A. Moore	409
Subsurface Miocene of Southern Louisiana, Alva C. Ellisor	435
New Rangia from Upper Miocene of Western Gulf Province, Julia	
Gardner	476
Geological Notes	
Ordovician Development, Apco Structure, Pecos County,	
Texas, Taylor Cole	478
Sejita Structure, Duval County, Texas, Carleton D. Speed, Jr. Three New Interior Salt Domes in Northeast Louisiana, Max	482
Bornhauser and Lester R. Marshall	483
Barium in Appalachian Salt Brines, E. T. Heck	486
Recent Secondary Recovery of Oil in Ohio, E. V. O'Rourke .	494
Discussion	171
Source Rocks of Petroleum—A Symposium of Opinion, Ruthvin	
W. Pike et al	496
REVIEWS AND NEW PUBLICATIONS	504
THE ASSOCIATION ROUND TABLE	
Financial Statement, 1939	514
Association Membership List, March 6, 1940	523
Research Notes	604
Memorial	
George Charlton Matson, W. B. Wilson	606
AT HOME AND ABROAD	610
NUMBER 4 (APRIL)	
Permian in Parts of Rocky Mountain and Colorado Plateau Regions,	
Arthur A. Baker and James Steele Williams	617
Possibilities of Heavy-Mineral Correlation of Some Permian Sedimentary	
Rocks, New South Wales, Dorothy Carroll	636
Petrology of Whittier Conglomerates, Southern California, George J.	
Bellemin	649
Paleozoic and Pre-Cambrian Rocks of Vance Well, Delaware County, Ohio, Wilber Stout and Carl A. Lamey	672
Deposition of Lissie and Beaumont Formations of Gulf Coast of Texas,	0/2
R. J. Metcalf	693
Sparta-Wilcox Trend, Texas and Louisiana, John D. Todd and Frank C.	70
Roper	701
Results of Recent Field Studies in Osage, Washington, and Nowata	
Counties, Oklahoma, Malcolm C. Oakes	716

CONTENTS OF VOI	LUME 24	vii
Geological Notes		
Recent Shoreline Process, Brazoria Con	73	31
Deepest Well in Mid-Continent Region, homa, W. Baxter Boyd	, Washita County, Okla-	
Dorcheat Pool, Columbia County, D	eepest in Arkansas, H.	35
Harold Trager	me, California, John H.	jð
Maxson	74	ю
Paloma Oil Field, Kern County, Califo Pre-Cambrian and Cambrian Relations	in East-Central Minne-	2
sota, A. J. Crowley and G. A. Thiel .		4
REVIEWS AND NEW PUBLICATIONS	75	0
THE ASSOCIATION ROUND TABLE		
AT HOME AND ABROAD	76	12
	\$73	
NUMBER 5 (MA	(Y)	
Mississippian Border of Eastern Interior Basin		
A. H. Sutton		-
Geochemical Exploration (Soil Analysis), Euge	ene McDermott 85	
REVIEWS AND NEW PUBLICATIONS	88	2
THE ASSOCIATION ROUND TABLE	A1	
Twenty-Fifth Annual Meeting, Chica		_
J. Brian Eby		
Minutes, I wenty-Fifth Annual Meeting	g, Ed. W. Owen 90	0
Franklin S. Prout, W. L. Walker Walter Winthrop Scott, D. P. Carlton	94	-
AT HOME AND ABROAD	94	-
AT HOME AND ABROAD	94	0
NUMBER 6 (JUN	JE)	
RECENT DEVELOPMENTS	12)	
Wildcat Drilling in 1939, Frederic H. Lahee .	0.5	2
Developments in Eastern Interior Basin, 1939 a	and rose Alfred H Bell or	
Deep-Sand Developments in Appalachian Reg	ion during 1939, Thur-	
man H. Myers	N	
Developments in North Mid-Continent in 1939,	, Edward A. Koester and	
Robert F. Meyer	Share	-
Recent Developments in South Mid-Continent	, Lewis W. MacNaugh-	1
ton	rn New Mexico during	5
1939, Dana M. Secor, W. C. Fritz, and I	W. W. West 1033	3
Developments in North and West-Central Texas Developments in East Texas in 1939, H. J.	. McLellan and E. A.	4
Wendlandt	1062	2

Developments and Status of Oil Reserves in South T Herring				
Review of Developments in 1939, Gulf Coast of L Louisiana, O. L. Brace	pper	Texa	s ar	nd
Developments in Southern Arkansas and Northern	Louisi	ana e	durir	ng
1939, Warren B. Weeks and Joseph Purzer .				
Developments in Rocky Mountain Region in 1939, (	C. E. I	obbi	n	. 1100
Significant Developments in California, 1939, E. R.	Atwill.			. 1112
GEOLOGICAL NOTES Todd Ranch Discovery, Crockett County Christner		,		D. . 1126
Discussion				
Are the "Omphalotrochus Beds" of the U.	S.S.R.	Per	miar	12
J. Brookes Knight et al				
REVIEWS AND NEW PUBLICATIONS				
THE ASSOCIATION ROUND TABLE				
				0,
MEMORIAL				
Henry Arthur Nedom, Earl G. Colton				
Ralph Daniel Reed, W. E. Wrather				
AT HOME AND ABROAD				. 1154

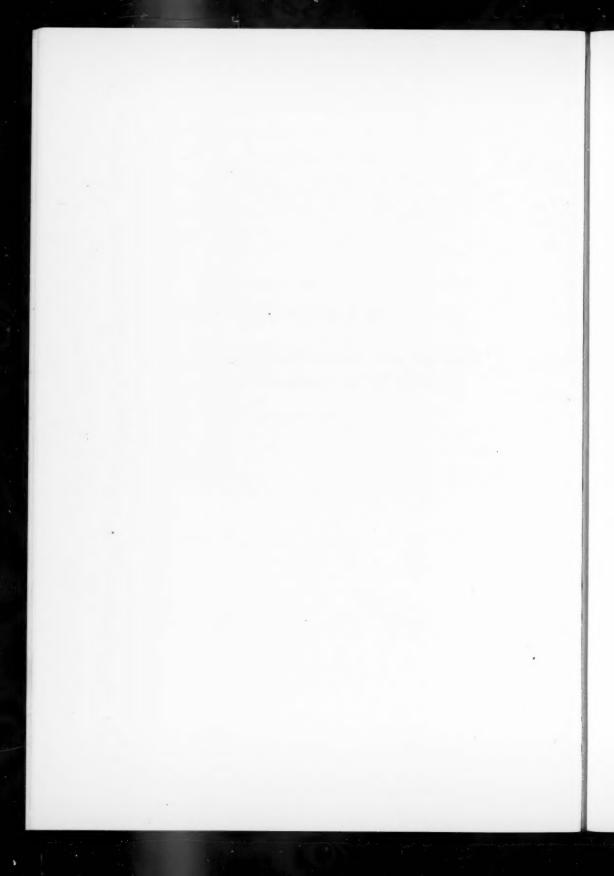
#### ERRATA

- Pages 50 and 63: Docum should be Dockum.
  Page 145, table: Carizzo should be Carrizo.
  Page 400, paragraph 2 from end, and center heading: Eleventh annual meeting should be Tenth annual meeting.
  Page 802, footnote 11, line 4: Broad head formation should be Brodhead formation.
  Page 940, line 8: Isaiah Bowen should be Norman L. Bowen.
  Page 1103, Figure 2: two black spots, due to mechanical imperfection, erroneously appear in the southeast (lower right) corner of the map, one below the word "Hartville," the other below the symbol for "gas field" in the "explanation" column.

# **BULLETIN**

of the

# AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS



# BULLETIN

of the

# AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

WALTER A. VER WIEBE, Editor GEOLOGICAL DEPARTMENT, UNIVERSITY OF WICHITA, WICHITA, KANSAS

#### ASSOCIATE EDITORS

CENERAL

North South NORTH CENTRAL STATES KANGAG OKLAHOMA

Western Eastern

TEXAS North and Central Northeastern San Antonio Permian Basin

FOREIGN Europe

> Canada South America

K. C. HEALD, Gulf Oil Corporation, Box 1166, Pittsburgh, Pa. HUGH D. MISER, U. S. Geological Survey, Washington, D. C. THERON WASSON, Pure Oil Company, 35 E. Wacker Drive, Chicago, Ill.

JOHN R. REEVES, Penn-York Natural Gas Corporation, Buffalo, N. Y. WILLIAM O. ZIEBOLD, Spartan Gas Company, Charleston, W. Va. R. B. NEWCOMBE, 90r North Otillia SE., Grand Rapids, Mich. ANTHONY FOLGER, Gulf Oil Corporation, Wichita, Kan.

ROBERT H. DOTT, Oklahoma Geological Survey, Norman, Okla. SHERWOOD BUCKSTAFF, Shell Oil Company, Inc., Box 1191, Tulsa, Okla.

TEXAS

North and Central
Northeastern
San Antonio
Permian Basin
GULF COAST

ARKANSAS AND NORTE LOUISIANA
ROCKY MOUNTAINS
CALIFORNA

ROCKY MOUNTAINS
FOREIGN

FOREIGN

North and Central
J. B. LOVEJOY, Gulf Oil Corporation, Fort Worth, Tex.
E. A. WENDLANDT, Humble Oil and Refining Company, Tyler, Tex.
HERSCHEL H. COO'PER, 1015 Miam Building, San Antonio, Tex.
MRCUS A. JUDSON, Texas Gulf Producing Company, Houston, Tex.
ARKANSAS AND NORTE LOUISIANA
ROCKY MOUNTAINS
CALIFORNA
W. S. W. KEW, Standard Oil Company, Los Angeles, Calif.
W. D. KLEINPELL, Box 1131, Bakersfield, Calif.

MARGARET C. COBB, Room 2703, 120 Broadway, New York, N. Y. W. A. J. M. VAN WATERSCHOOT VAN DER GRACHT, Huize Jachtduin 36 Eeuwige Laan, Bergen, N. H., Netherlands THEODORE A. LINK, Imperial Oil, Ltd., Calgary, Alberta HOLLIS D. HEDBERG, Mene Grande Oil Co., Apt. 45, Barcelona, Venezuela

# **VOLUME 24** JANUARY—DECEMBER 1940

PART II

PAGES 1157-2232

ASSOCIATION HEADQUARTERS BOX 979, TULSA, OKLAHOMA

# THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, INC.

#### OFFICERS FOR THE YEAR ENDING APRIL, 1941

L. C. SNIDER, President
New York City
EDGAR W. OWEN, Secretary-Treasurer
San Antonio, Texas

JOHN M. VETTER, Vice-President Houston, Texas WALTER A. VER WIEBE, Editor Wichita, Kansas

(The foregoing officers, together with the Past-President, Henry A. Ley, San Antonio, Texas, constitute the Executive Committee)

#### DISTRICT REPRESENTATIVES

(Representatives' terms expire immediately after annual meetings of the years shown in parentheses)

Amarillo
C. Don Hughes (1942), Amarillo, Tex.

Applaachians
Paul H. Price (1941), Morgantown, W. Va.
Casada
S. E. Slipper (1941), Calgary, Canada
L. W. Stephenson (1942), Washington, D. C.

Dallas
W. W. Clawson (1942), Dallas, Tex.

East Oklahoma
N. W. Bass (1941), Tulsa, Okla.
Robert H. Wood (1941), Tulsa, Okla.
T. E. Weirich (1942), Bartlesville, Okla.
Fort Worth
Charles E. Yager (1941), Fort Worth, Tex.

William Norval Ballard (1941), Holland, Mich.
Alfred H. Bell (1941), Urbana, Ill.

Houssion
J. Boyd Best (1941), Houston, Tex.
Lon D. Cartwright, Jr. (1941), Houston, Tex.
R. L. Beckelhymer (1942), Houston, Tex.

New Mexico
Delmar R. Guinn (1941), Hobbs, N. Mex.

New York
W. T. Thom, Jr. (1941), Princeton, N. J.

Pacific Coast
Harold K. Armstrong (1941), Los Angeles,
Calif.
Herschel L. Driver (1941), Los Angeles, Calif.
E. C. Edwards (1942), Los Angeles, Calif.
Rocky Mountains
C. E. Dobbin (1941), Denver, Colo.
Shreveport
C. L. Moody (1941), Shreveport, La.
South America
Roger H. Sherman (1941), Caripito, Venezuela
Southeast Gulf
James H. McGuirt (1941), University, La.
So. Permiaus Bananal K. DeFord (1941), Midland, Tex.
South Texas
C. C. Miller (1941), Corpus Christi, Tex.
Harry H. Nowlan (1941), San Antonio, Tex.
Tyler
Edward B. Wilson (1941), Tyler, Tex.
West Oklahoma
C. W. Tomlinson (1941), Ardmore, Okla.
Wichita
James I. Daniels (1941), Wichita, Kan.
Wichita Falls
James F. Gibbs (1942), Wichita Falls, Tex.

#### DIVISION REPRESENTATIVES

Paleontology and Mineralogy

Carey Croneis (1941), Chicago, Illinois Henryk B. Stenzel (1941), Austin, Texas

#### OFFICERS FOR THE YEAR ENDING APRIL, 1940

President: HENRY A. LEY Secretary-Treasurer: EDGAR W. OWEN Vice-President: L. MURRAY NEUMANN Editor: WALTER A. VER WIEBE

(The foregoing officers, together with the Past-President, Donald C. Barton, Houston, Texas, constitute the Executive Committee)

Copyright 1940 by The American Association of Petroleum Geologists

> PUBLISHED MONTHLY

Composed and Printed by George Banta Publishing Company Menasha, Wisconsin, U.S.A.

# CONTENTS OF VOLUME 24 (1940)

# PART II

# NUMBER 7 (JULY)

Nomber (Gerl)	
Address of Welcome at the Twenty-Fifth Annual Meeting of the Asso-	
ciation, M. M. Leighton	1157
The Response, Henry A. Ley	1159
Memorials, Ed. W. Owen	1160
Memorials, Ed. W. Owen	1162
Paleoecological Factors Controlling Distribution of Cretaceous Ammo-	
noids in Texas Area, Gayle Scott	1164
Partnership between Geology and Geophysics in Prospecting for Oil,	
E. A. Eckhardt	1204
Geology in the Petroleum Industry, Wallace E. Pratt	1209
Oil-Field Waters of Wyoming and Their Relation to Geological Forma-	
tions, J. G. Crawford	1214
Geological Notes	
Rio Bravo Oil Field, Kern County, California, Earl B. Noble .	1330
Strand Oil Field, Kern County, California, F. A. Menken	1333
REVIEWS AND NEW PUBLICATIONS	1339
THE ASSOCIATION ROUND TABLE	1343
At Home and Abroad	1348
NITHERED O (ALICHOD)	
NUMBER 8 (AUGUST)	
Exploration Methods	
Foreword, A. I. Levorsen	1353
Petroleum Geology, A. I. Levorsen	1355
Chemical Engineering in Petroleum Exploration and Production, P. E.	
Fitzgerald	1361
Petroleum Engineering as an Aid in Exploration Geology, C. V.	
Millikan	1370
Geophysics, E. A. Eckhardt	1377
Where Will Young Graduates in Petroleum Geology Acquire Field	
Experience? Frederic H. Lahee	1386
Future Position of Petroleum Geology in the Oil Industry, E. DeGolyer	1389
Geochemical Prospecting for Petroleum, Esme Eugene Rosaire	1400
Discussion of Geochemical Prospecting, Rosaire, McDermott, Fash, et al.	1434
Critical Survey of Recent Developments in Geochemical Prospecting,	
Sylvain J. Pirson	1464
GEOLOGICAL NOTES	
Hydrogenation of Oil: Suggested Natural Source of Hydrogen,	
E. T. Heck	1475
Our Experience with Underground Storage of Gas (The Manu-	
facturers Light and Heat Company, Pittsburgh, Pennsyl-	
vania), E. O. Schillhahn	1478
Our Experience with Underground Storage of Gas (The Peoples	-1,
Natural Gas Company) F H Finn	T482

Discovery of Oil in Ellenburger Formation, K.M.A. Oil Field, Wichita County, Texas, Vernon E. Autry	1494 1495 1495 1498 1503
At Home and Abroad	1524
NUMBER 9 (SEPTEMBER)	
Radioactivity of Sedimentary Rocks and Associated Petroleum, K. G.	
Bell, Clark Goodman, and W. L. Whitehead	1529
Antillean-Caribbean Region, Alfred Senn	1548
Oppenheim	1611
Mackenzie	1620
Lower Ordovician Sand Zones ("St. Peter") in Middle Tennessee,	1010
Kendall E. Born	1641
New Zone in Cook Mountain Formation, Crassatella texalta Harris- Turritella cortezi Bowles Zone, H. B. Stenzel	. 1663
Geological Notes Coal in Eocene near Bakersfield, California, Robert W. Clark Probable Lower Mississippian Age of Caballos Novaculite, New	1676
Mexico, C. L. Baker	1679
Possibilities of Heavy-Mineral Correlation of Some Permian Sedimentary Rocks, New South Wales, by Dorothy Carroll, H. G. Raggatt and Irene Crespin.	1682
Reviews and New Publications	1684
THE ASSOCIATION ROUND TABLE	1691
AT HOME AND ABROAD	1701
NUMBER 10 (OCTOBER)	
Twenty Years of Petroleum Geology in California, Roy M. Barnes .	1705
Eocene Yokut Sandstone North of Coalinga, California, Robert T.	
White	1722
Larger Gas Fields in Kansas, J. H. Page	1779
Relative Porosity and Permeability of Producing Formations of Hugo- ton Field, Kansas, as Indicated by Gas Withdrawals and Pres-	
sure Declines, Glenn G. Bartle and Rufus M. Smith	1798
Saxet Oil and Gas Field, Nueces County, Texas, J. C. Poole	1805

CONTENTS OF VOLUME 24	VII
GEOLOGICAL NOTES	
Rogers Pool, Montague County, Texas, G. C. Clark	1836
Bonita Discovery, Montague County, Texas, J. P. Gill	1838
Asperment Pool Discovery, Stonewall County, Texas, Fred M.	1030
Haase	1839
REVIEWS AND NEW PUBLICATIONS	1841
THE ASSOCIATION ROUND TABLE	1847
MEMORIAL	
Edwin Butcher Hopkins, E. DeGolyer	1851
Gustavus Edwin Anderson, Charles E. Decker	1854
Joshua William Beede, E. R. Cumings	
AT HOME AND ABROAD	
AT HOME AND ABROAD	1050
NUMBER 11 (NOVEMBER)	
Rôle of Carbohydrates in Formation of Oil and Bituminous Coals,	-06-
E. Berl	1865
	1891
Culbertson	1091
Doris Laiming	1923
Eocene Exploration in California, F. A. Menken	1940
Buckeye Oil Field, Gladwin County, Michigan, Carl C. Addison	1950
Résumé of the Devonian System of West Virginia. Paul H. Price and	
Herbert P. Woodward	1983
Herbert P. Woodward	1995
preted in Terms of Isostasy, Malvin G. Hoffman	2006
STUDENT AWARDS	2000
Preface, W. A. Ver Wiebe	2019
Relationship of Unconformities to Oil and Gas Accumulation,	2019
Frank J. Gardner	2022
GEOLOGICAL NOTES	2022
Pittsburg Field, Camp County, Texas, H. C. Vanderpool	2022
	2032
Surface Formations in Mississippi, Urban B. Hughes, Robert T.	
Harbison, et al	2033
Neale Field, Beauregard Parish, Louisiana, H. V. Tygrett DISCUSSION	2034
Technique of Stratigraphic Nomenclature, C. W. Tomlinson .	2038
Where Should Young Graduates in Petroleum Geology Acquire	2030
Field Experience? David A. Dunn	2015
	2047
REVIEWS AND NEW PUBLICATIONS	2049
THE ASSOCIATION ROUND TABLE	2056
MEMORIAL	
Jerome Archibald Chevalier, L. E. Kennedy	2060
AT HOME AND ABROAD	2061
NUMBER 12 (DECEMBER)	
·	
Heavy-Mineral Zones of Louisiana and Texas Gulf Coast Sediments,	
William M. Cogen	2069

Los Bajos Fault of South Trinidad, B.W.I., C. C. Wilson 210 Hoffman Field, Duval County, Texas, Harvey Whitaker 212 Structural Interpretation of Recent Gravity Observations in South-	
eastern Oklahoma, Thomas A. Hendricks 214	3
Isopachous Studies of Ellsworth to Traverse Limestone Section of	
Southwestern Michigan, Margaret Stearns Bishop 215	0
Water Cones and Water Sheaths in Experimental Oil Wells, F. B.	
Plummer and H. K. Livingston	3
Geological Notes	
Jones County, Texas, Discovery, Orion A. Daniel and J. B. Lovejoy	_
Lovejoy	O
DeFord	ī
Miocene Fishes in Well Cores from Torrance in Southern Cali-	
fornia, Lore David	2
REVIEWS AND NEW PUBLICATIONS	5
THE ASSOCIATION ROUND TABLE	_
AT HOME AND ABROAD	
INDEX OF VOLUME 24 (1940)	5

## ERRATA

Page 1699, last line: El Renos should be *El Reno*. Page 2006, Abstract, line 7: 20,000 feet should be 20,000 feet.

